

**MITIGATED NEGATIVE DECLARATION  
PACIFIC GAS AND ELECTRIC (PG&E)  
LINE 114, LINE 114-1 AND LINE SP4Z  
PIPELINE DECOMMISSIONING PROJECT**

July 2015

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**Lead Agency:**

California State Lands Commission  
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**Applicant:**

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## LIST OF ABBREVIATIONS AND ACRONYMS

°F	Degrees Fahrenheit
μ	micron
μg	microgram
μPa or rms	microPascals
<b>A</b> AADT	annual average daily traffic
AB	Assembly Bill
ABAG	Association of Bay Area Governments
af	artificial fill
AG	Agricultural zoning or land designation
AHPA	Archaeological and Historic Preservation Act
AQAP	Air Quality Attainment Plan
AQMD	Air Quality Management District
ARPA	Archaeological Resources Protection Act
<b>B</b> BAAQMD	Bay Area Air Quality Management Board
BMP	Best Management Practice
BP	before present time
<b>C</b> CalEEMod	California Emissions Estimator Model
Caltrans	California Department of Transportation
CAPCOA	California Air Pollution Control Officers Association
CARB	California Air Resources Board
CCAA	California Clean Air Act
CCTA	Contra Costa Transportation Authority
CDFW	California Department of Fish and Wildlife
CEQA	California Environmental Quality Act
CERCLA	Comprehensive, Environmental Response, Compensation and Liability Act
CESA	California Endangered Species Act
CFR	Code of Federal Regulations
CH <sub>4</sub>	methane
City	city of Oakley
CMP	Congestion Management Program
CNDDDB	California Natural Diversity Database
CNEL	Community Noise Equivalent Level
CNPS	California Native Plant Society
CO	carbon monoxide
CO <sub>2</sub>	carbon dioxide
CO <sub>2</sub> e	carbon dioxide equivalent

	COLREGS	Convention on the International Regulations for Preventing Collisions at Sea
	CRHR	California Register of Historic Resources
	CRPR	California Rare Plant Ranks
	CSLC	California State Lands Commission
	CTP	Countywide Comprehensive Transportation Plan
	CVFPB	Central Valley Flood Protection Board
	CWA	Clean Water Act
	CWP	Contra Costa County Watershed Program
	cy	cubic yards
<b>D</b>	dB	decibel
	dBA	A-weighted decibels
	DDT	dichlorodiphenyltrichloroethane
	DEPM	Division of Environmental Planning and Management
	DGPS	Differential global positioning system
	DOGGR	Division of Oil, Gas, and Geothermal Resources
	DPC	Delta Protection Commission
	DTSC	Department of Toxic Substances Control (California Environmental Protection Agency)
<b>E</b>	ECCC	East Contra Costa County
	EFH	Essential Fish Habitat
	EIR	Environmental Impact Report
<b>F</b>	FCAA	Federal Clean Air Act
	FEMA	Federal Emergency Management Agency
	FERC	Federal Energy Regulatory Commission
	FHWA	Federal Highway Administration
<b>G</b>	GHG	Greenhouse Gas
<b>H</b>	H <sub>2</sub> S	hydrogen sulfide
	HCP/NCCP	Habitat Conservation Plan/Natural Community Conservation Plan
	HMTA	Hazardous Materials Transportation Act
	hp	horsepower
<b>I</b>	IPCC	Intergovernmental Panel on Climate Change
	IS	Initial Study
<b>L</b>	L <sub>dn</sub>	day-night average sound level
	Leq	average sound level over a specified period of time
	LOS	Level of Service
	MMP	Mitigation Monitoring Program
<b>M</b>	MM	Mitigation measure
	MMT	Million metric tons
	MND	Mitigated Negative Declaration
	MP	mile post

	MT	metric ton
<b>N</b>	N <sub>2</sub> O	nitrous oxide
	NAAQS	National Ambient Air Quality Standards
	NAHC	Native American Heritage Commission
	NAVD88	North American Datum of 1988
	NCP	National Oil and Hazardous Substances Pollution Contingency Plan
	NHPA	National Historic Preservation Act
	NMFS	National Marine Fisheries Service
	No	Number
	NO	nitric oxide
	NO <sub>2</sub>	nitrogen dioxide
	NO <sub>x</sub>	nitrogen oxides
	NPDES	National Pollutant Discharge Elimination System
	NRCS	National Resource Conservation Service
<b>O</b>	O <sub>3</sub>	ozone
	Occ.	Occurrence
	OPA	Oil Pollution Act
	OSHA	Occupational Safety and Health Administration
	OSPR	Office of Spill Prevention and Response
	OSRP	Oil Spill Response Plan
<b>P</b>	Pb	Lead
	PCBs	polychlorinated biphenyls
	PEP	Project Execution Plan
	PG&E	Pacific Gas and Electric
	PM	particulate matter
	PM <sub>10</sub>	particulate matter less than 10 micrometers
	PM <sub>2.5</sub>	particulate matter less than 2.5 micrometers
	ppm	parts per million
<b>Q</b>	Qds	Eolian dune deposits
	Qhpm	Holocene-age peat and muddy peat
<b>R</b>	RCRA	Resource Conservation and Recovery Act
	RD	Reclamation District
	ROC	reactive organic compound
	ROG	reactive organic gases
	RWQCB	Regional Water Quality Control Board
<b>S</b>	SR	State Route
	SARA	Superfund Amendments and Reauthorization Act
	SFBAAB	San Francisco Bay Area Air Basin
	SHPO	State Historic Preservation Office
	SJVAB	San Joaquin Valley Air Basin

	SMAQMD	Sacramento Metropolitan Air Quality Management District
	SO <sub>2</sub>	sulfur dioxide
	SVAB	Sacramento Valley Air Basin
	SWRCB	State Water Resources Control Board
<b>T</b>	TAC	toxic air contaminant
	TMDL	total maximum daily loads
	TSCA	Toxic Substances Control Act
<b>U</b>	U.S.	United States
	USACE	U.S. Army Corps of Engineers
	USC	United States Code
	USCG	U.S. Coast Guard
	USDOT	U.S. Department of Transportation
	USEPA	U.S. Environmental Protection Agency
	USFWS	U.S. Fish and Wildlife Service
	USGS	U.S. Geological Survey
<b>V</b>	V/C	volume-to-capacity ratio
	VTs	Vessel Traffic Service
<b>W</b>	WEAP	Worker Environmental Awareness Program
	WL	Watch List

## EXECUTIVE SUMMARY

This Mitigated Negative Declaration (MND) has been prepared by the California State Lands Commission (CSLC), as lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), to analyze and disclose the environmental effects associated with the proposed Line 114, Line 114-1, and Line SP4Z Pipeline Decommissioning Project (Project). Pacific Gas and Electric (PG&E or Applicant) has applied to the CSLC to decommission and largely remove three inactive pipelines and associated components in accordance with the terms and conditions of its existing lease (PRC 5438.1E). Line 114, Line 114-1 and Line SP4Z (pipelines) cross under the San Joaquin River between Sherman Island and the city of Oakley (City); the northern landing of the pipeline crossing is located in Sacramento County, the southern landing of the pipeline crossing is located in Contra Costa County, and the county boundary lines are located at the approximate centerline of the river (Figure ES-1).

The CSLC prepared an MND because it determined that, while the Initial Study identified potentially significant impacts related to the Project, measures have been incorporated into the Project proposal and agreed to by PG&E that avoid or mitigate those impacts to a point where no significant impacts would occur.

### PROPOSED PROJECT

The Project includes the decommissioning and removal of three deactivated submarine pipelines, an associated concrete valve pit at Sherman Island, and navigational hazard signs at the northern and southern landings. The length of the underwater portions of pipelines across/under the river channel (shoreline to shoreline) is about 3,830 feet. Underwater and diver surveys (Fugro 2006, 2014) show that up to approximately 125 feet of the pipelines are exposed on the riverbed and suspended as much as 6 feet above the Stockton Deep Water Channel near the north landing of the crossing (offshore Sherman Island). Additional exposed segments of the pipeline were observed on the northern riverbed. All exposed portions would be removed along with buried portions within the riverbed. Table ES-1 shows the proposed areas of disturbance.

**Table ES-1. Summary of Proposed Areas of Disturbance**

Location	Dimensions	Square Footage	Acreage
North Landing	100 feet x 122 feet	12,200	0.280
Pipeline Crossing - Underwater Work Site	3,519 feet x 12 feet	42,228	0.970
South Landing	3 feet x 9 feet	27	0.001

The north landing terrestrial and shoreline pipeline segments (buried under the waterside slope of the Sherman Island levee) and the south landing terrestrial and shoreline segments do not present a navigational hazard, and would be filled with cement slurry and abandoned in place.



Figure ES-1. Project Site Location

The Project would encompass three separate work sites (the north landing work site, the south landing work site, and the pipeline crossing of the San Joaquin River underwater work site). The north landing work site is located within a levee and undeveloped land on Sherman Island in Sacramento County. The south landing work site is located within Lauritzen Yacht Harbor in the City, which is located in Contra Costa County.

## PROJECT BACKGROUND

The Line 114, Line 114-1 and Line SP4Z pipelines and supporting facilities were constructed in 1942. All three pipelines transported natural gas to consumers in Contra Costa County. In 1999, approximately 647 feet of the 16-inch-diameter terrestrial portion of Line 114 on Sherman Island, upstream of the north landing's concrete valve pit on Sherman Island levee, was filled with cement slurry, cut, capped, and decommissioned. In 2006, the three pipelines were deactivated. In 2012, the Line SP4Z pipeline segment upstream of the north landing's concrete valve pit was cut and capped, but was not filled with cement slurry. The three submarine pipeline segments and the south landing's terrestrial pipeline segments are currently intact and filled with pressurized natural gas.

## ENVIRONMENTAL IMPACTS AND PROPOSED MITIGATION MEASURES

The environmental factors checked below (Table ES-2) would be potentially affected by this Project; a checked box indicates that at least one impact would be a "Potentially Significant Impact" except that PG&E has agreed to Project revisions, including the implementation of mitigation measures (MMs), that reduce the impact to "Less than Significant with Mitigation," as detailed in Section 3 of this MND. Table ES-3 lists proposed MMs designed to reduce or avoid potentially significant impacts. With implementation of the proposed MMs, all Project-related impacts would be reduced to less than significant.

**Table ES-2. Environmental Issues and Potentially Significant Impacts**

<input checked="" type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forest Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology and Soils
<input type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input checked="" type="checkbox"/> Hydrology and Water Quality
<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Mineral Resources	<input checked="" type="checkbox"/> Noise
<input type="checkbox"/> Population and Housing	<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation
<input checked="" type="checkbox"/> Transportation/Traffic	<input type="checkbox"/> Utilities and Service Systems	
<input type="checkbox"/> Mandatory Findings of Significance		
<input checked="" type="checkbox"/> Other Major Areas of Concern: Environmental Justice		

**Table ES-3. Summary of Mitigation Measures**

<b>Aesthetics</b>
MM N-1: Construction Timing.
<b>Air Quality</b>
MM AQ-1: Air Pollutant Control Measures.
MM AQ-2: Dust Control Measures.
<b>Biological Resources</b>
MM BIO-1: Worker Environmental Awareness Program (WEAP).
MM BIO-2: Biological Compliance Monitoring Program.
MM BIO-3: Preconstruction Surveys for Special-Status Plant Species.
MM BIO-4: In-Water Work Windows and Protections.
MM BIO-5: Preconstruction Surveys for Western Pond Turtle and Giant Garter Snake.
MM BIO-6: Temporary Exclusion Fencing.
MM BIO-7: Preconstruction Survey for Swainson's Hawk.
MM BIO-8: Preconstruction Survey for California Black Rail.
MM BIO-9: Preconstruction Survey and Minimization Measures for Nesting Birds.
<b>Cultural Resources</b>
MM CUL-1: Discovery of Previously Unknown Cultural Resources.
MM CUL-2: Unanticipated Discovery of Human Remains.
<b>Hazards and Hazardous Materials</b>
MM HAZ-1: Oil Spill Response Plan (OSRP).
MM HAZ-2: Marine Safety and Anchoring Plan (MSAP).
MM HAZ-3: Pre- and Post-Decommissioning Surveys.
MM HAZ-4: Pig/Clean Pipeline Interiors.
MM HAZ-5: Phase I Environmental Site Assessment.
MM HAZ-6: Asbestos Testing.
<b>Hydrology and Water Quality</b>
MM WQ-1: Surface Water Protection.
<b>Noise</b>
MM N-1: Construction Timing.
<b>Transportation/Traffic</b>
MM TRANS-1: Local Notice to Mariners.
MM TRANS-2: Avoidance of Peak Hours.
MM TRANS-3: Marine Safety Zones.
<b>CSLC Environmental Justice Policy</b>
MM TRANS-1: Local Notice to Mariners.
MM WQ-1: Surface Water Protection.



## 1.0 PROJECT AND AGENCY INFORMATION

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### 1.1 PROJECT TITLE

Pacific Gas and Electric (PG&E) Line 114, Line 114-1, and Line SP4Z Pipeline Decommissioning Project (Project)

### 1.2 LEAD AGENCY AND PROJECT SPONSOR

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### 1.3 PROJECT LOCATION

The proposed Project is located across the San Joaquin River between Sherman Island and the city of Oakley (City). The northern landing of the crossing is located in Sacramento County while the southern landing of the crossing is located in Contra Costa County. The county boundary lines are located at the approximate centerline of the river. Refer to Section 2, Project Description, for further details on the Project location.

### 1.4 ORGANIZATION OF MITIGATED NEGATIVE DECLARATION

This Mitigated Negative Declaration (MND) is intended to provide the CSLC, as lead agency under the California Environmental Quality Act (CEQA) (Pub. Resources Code, § 21000 et seq.), and other responsible agencies with the information required to exercise their discretionary responsibilities with respect to the proposed Project. The document is organized as follows:

- Section 1 provides the Project background, Agency and Applicant information, Project Objectives and anticipated agency approvals, and a summary of the public review and comment process.
- Section 2 describes the proposed Project including its location, layout, equipment, and facilities. Section 2 also provides an overview of the Project's operations and schedule.
- Section 3 provides the Initial Study (IS), including the environmental setting, identification and analysis of potential impacts, and discussion of various Project changes and other measures that, if incorporated into the Project, would mitigate or avoid those impacts, such that no significant effect on the environment would occur. The IS was conducted by the CSLC pursuant to section 15063 of the State CEQA Guidelines.<sup>1</sup>
- Section 4 includes an environmental justice analysis and discussion consistent with CSLC Policy.
- Section 5 presents the Mitigation Monitoring Program (MMP).
- Section 6 presents information on report preparation and references.
- Appendices. The appendices include specifications, technical data, and other information supporting the analysis presented in this MND.
  - Appendix A: Project Execution Plan (Longitude 123)
  - Appendix B: Air Quality and Greenhouse Gas Calculations
  - Appendix C: Fugro Desktop Study (2006)
  - Appendix D: Biological Reconnaissance Report

## 1.5 PROJECT BACKGROUND AND OBJECTIVES

The subject submarine pipelines are Line 114, Line 114-1, and Line SP4Z, which cross the San Joaquin River between Sherman Island and the City. The pipelines were deactivated in 2006 and multiple survey events (Fugro 2006, Fugro 2014) have shown them to be exposed on the riverbed and suspended over the Stockton Deep Water Channel near the north landing of the crossing (offshore Sherman Island). Navigational hazard signs are located at both landings. The Project is intended to decommission and largely remove the three deactivated pipelines, an associated reinforced concrete valve pit at Sherman Island, and navigational hazard signs at both landings that would no longer be necessary after the pipelines have been removed.

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<sup>1</sup> The State "CEQA Guidelines" are found in Title 14 of the California Code of Regulations, commencing with section 15000.

## **1.6 PUBLIC REVIEW AND COMMENT**

Pursuant to State CEQA Guidelines sections 15072 and 15073, a lead agency must issue a proposed MND for a minimum 30-day public review period. Local and State agencies and the public will have the opportunity to review and comment on the document. Responses to written comments received by the CSLC during the 30-day public review period will be incorporated into the proposed Final MND.

In accordance with State CEQA Guidelines section 15074, subdivision (b), the CSLC will review and consider the proposed Final MND, together with any comments received during the public review process, prior to taking action on approval of the MND and the Project.

## **1.7 APPROVALS AND REGULATORY REQUIREMENTS**

The CSLC's authority is set forth in Division 6 of the California Public Resources Code and it is regulated by the California Code of Regulations, Title 2, sections 1900-2970. The CSLC has authority to issue leases or permits for the use of sovereign lands held in the public trust, including all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways, as well as certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust. As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the United States in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation, and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion. For the proposed Project, the CSLC has received an application to remove and partially abandon three pipelines associated with Lease No. PRC 5438.1E.

The CSLC must comply with CEQA when it undertakes an activity defined by CEQA as a "project" that must receive some discretionary approval (i.e., the CSLC has the authority to deny the requested lease, permit, or other approval), which may cause either a direct physical change in the environment or a reasonably foreseeable indirect change in the environment. CEQA requires the CSLC to identify the significant environmental impacts of its actions and to avoid or mitigate those impacts, if feasible.

- 1 In addition to the CSLC, the Project is subject to the review and approval of other
- 2 Federal, State and local entities with statutory and/or regulatory jurisdiction over various
- 3 aspects of the Project (see Table 1-1).

**Table 1-1. Other Agencies with Review/Approval over Project Activities**

Permitting Agency		Anticipated Approvals/Regulatory Requirements
<b>Federal</b>	U.S. Army Corps of Engineers (USACE)	Clean Water Act Section 404 (under Nationwide Permit No. 12) Section 10 Permit (under Nationwide Permit No. 12)
	U.S. Fish and Wildlife Service (USFWS)	Section 7 Consultation under Federal Endangered Species Act (if necessary)
	National Marine Fisheries Service (NMFS)	Consultation for anadromous fish species
	U.S. Coast Guard (USCG)	Notice to Mariners
<b>State</b>	California State Lands Commission (CSLC)	Lease Quitclaim and Abandonment Agreement
	California Department of Fish and Wildlife (CDFW)	California Endangered Species Act Fish and Game Code sections 1600-1616 Streambed Alteration Agreement
	Central Valley Flood Protection Board (CVFPB)	Levee Encroachment Permit
	Regional Water Quality Control Board (RWQCB)	Clean Water Act Section 401 Water Quality Certification
	State Historic Preservation Office (SHPO)	Section 106 Compliance
<b>Local</b>	Reclamation District 341 (RD)	Encroachment Permit

## 2.0 PROJECT DESCRIPTION

### 2.1 NEED FOR PROJECT

Line 114, Line 114-1, and Line SP4Z (pipelines) cross under the San Joaquin River between Sherman Island and the city of Oakley (City) (Figure 2-1). The pipelines and supporting facilities were constructed in 1942. All three pipelines served as gas transmission pipelines transporting natural gas to consumers in Contra Costa County.

In 1999, approximately 647 feet of the terrestrial portion of Line 114 on Sherman Island, upstream of the north landing's reinforced concrete valve pit on Sherman Island levee, was filled with cement slurry, cut, capped, and decommissioned. In 2006, the pipelines were deactivated. In 2012, the Line SP4Z pipeline segment upstream of the north landing's reinforced concrete valve pit was cut and capped, but was not filled with cement slurry. The three submarine pipeline segments and the south landing's terrestrial pipeline segments are intact and currently filled with pressurized natural gas. A summary of pipeline specifications is provided in Table 2-1 (Pipeline Overview).

**Table 2-1. Pipeline Overview**

Line	Specifications		Current Status
	Pipeline (inches)	Wall Thickness (inches)	
114	16 at north landing, reduced to 12 across river	16 onshore = 0.520 12 crossing = 0.438	Cement Slurry Plug at North landing. Capped and Intact, filled with pressurized natural gas.
114-1	12	12 onshore = 0.375 12 crossing = 0.438	Filled with pressurized natural gas.
SP4Z	12	12 onshore = 0.375 12 crossing = 0.438	Capped and Intact, filled with pressurized natural gas.

In 2005/2006, underwater and diver surveys (Fugro 2006) revealed that the three pipelines are exposed on the riverbed and suspended over the Stockton Deep Water Channel near the north landing of the crossing (offshore Sherman Island). Span lengths were noted up to approximately 125 feet and elevated as much as approximately 6 feet above the riverbed. Follow up surveys in 2014 (Fugro 2014) confirmed these findings and found that additional segments of the pipeline were exposed on the northern riverbed.

PG&E intends to decommission and largely remove these three deactivated pipelines. All exposed portions would be removed along with buried portions within the riverbed. The north landing terrestrial and shoreline pipeline segments (buried under the waterside slope of the Sherman Island levee) and the south landing terrestrial and shoreline segments would be filled with cement slurry and abandoned in place.

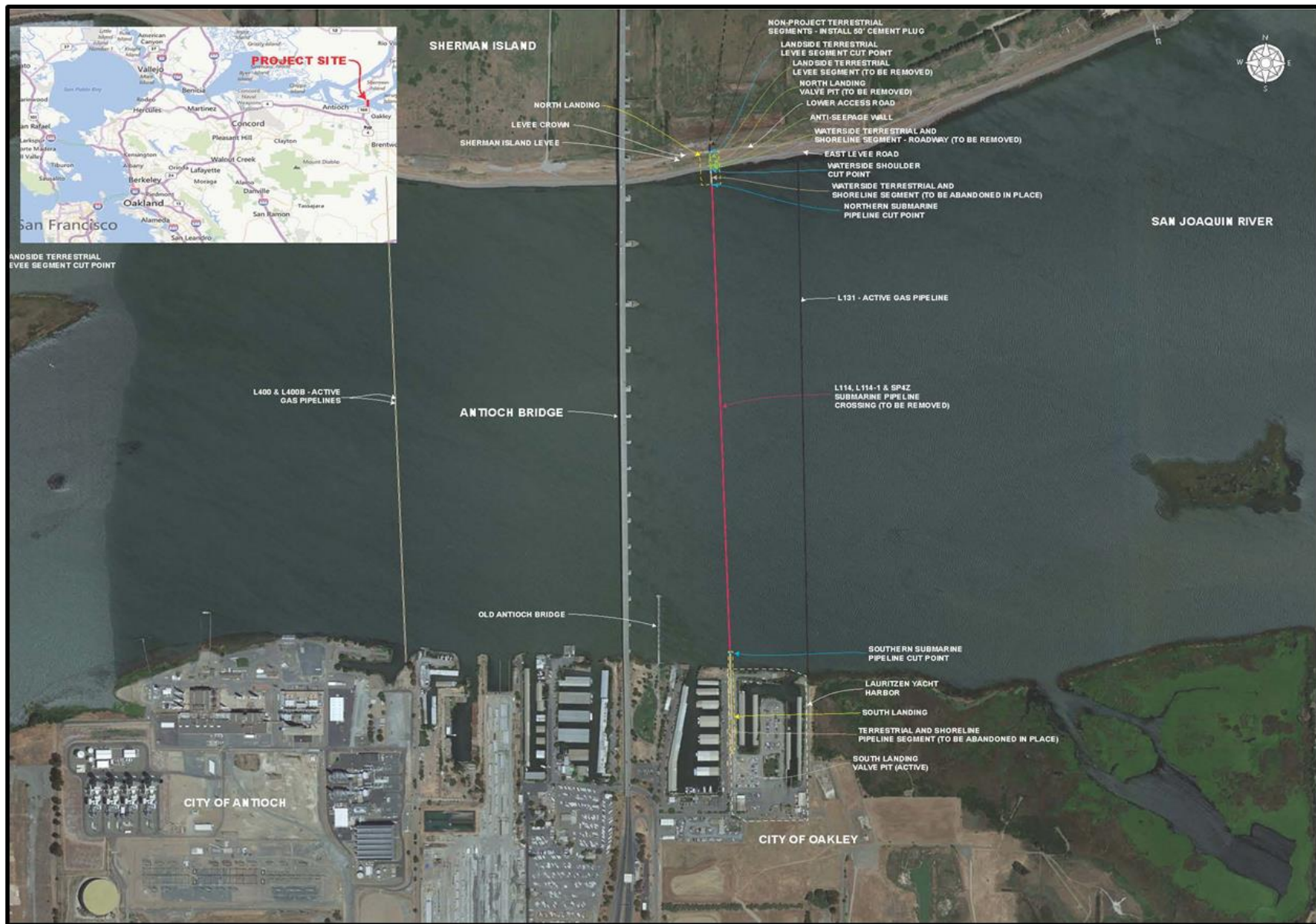


Figure 2-1. Project Site Map – Overview

## 2.2 PROJECT COMPONENTS

The proposed Project involves the decommissioning of three submarine pipelines (Line 114, Line 114-1, and Line SP4Z), the associated northern valve pit at Sherman Island, and navigational hazard signs at the northern and southern landings that would no longer be necessary after the pipelines have been removed. The Project would encompass three separate work sites (the north landing work site, the south landing work site and the pipeline crossing of the San Joaquin River underwater work site) as further described below. These activities would be supported by an offsite shore base (see Section 2.2.4 below). The proposed areas of disturbance to complete the Project activities are summarized below (Table 2-2).

**Table 2-2. Summary of Proposed Areas of Disturbance**

Location	Dimensions	Square Footage	Acreage
North Landing	100 feet x 122 feet	12,200	0.280
Pipeline Crossing - Underwater Work Site	3,519 feet x 12 feet	42,228	0.970
South Landing	3 feet x 9 feet	27	0.001

### 2.2.1 North Landing at Sherman Island

At the start of the work at the north landing, the valve pit would be opened and cement slurry plugs would be placed in each of the three pipeline segments from the valve pit south, passing underneath the levee crown, down the waterside levee slope and under the riverbed, an overall length of approximately 285 feet each (see Figure 2-2). These cement slurry plugs in the submarine pipeline segment landings would terminate approximately 50 feet south of the northern submarine pipeline cut points located approximately 180 feet offshore of the Sherman Island shoreline. Once the three submarine pipeline landing segments have been filled with cement slurry plugs, the levee crown would be excavated between the north landing valve pit and the waterside shoulder of the levee crown, an overall distance of approximately 27 feet. The three pipeline segments would be cut at the waterside shoulder of the levee crown (waterside shoulder cut point) and all three pipelines would be removed between the waterside shoulder cut point and the valve pit. The 12-foot-long reinforced concrete anti-seepage wall embedded in the levee crown (through which the three pipeline segments pass) would also be removed.

At the lower access road, approximately 15 feet north of the toe of the Sherman Island levee, all three pipeline segments would be excavated and cut at a point where they pass under this road (Figure 2-3). This cut point has been designated the landside terrestrial levee segment cut point. Cement slurry plugs (approximately 50 feet long) would be placed in Lines 114-1 and SP4Z from the landside terrestrial levee segment cut point north.



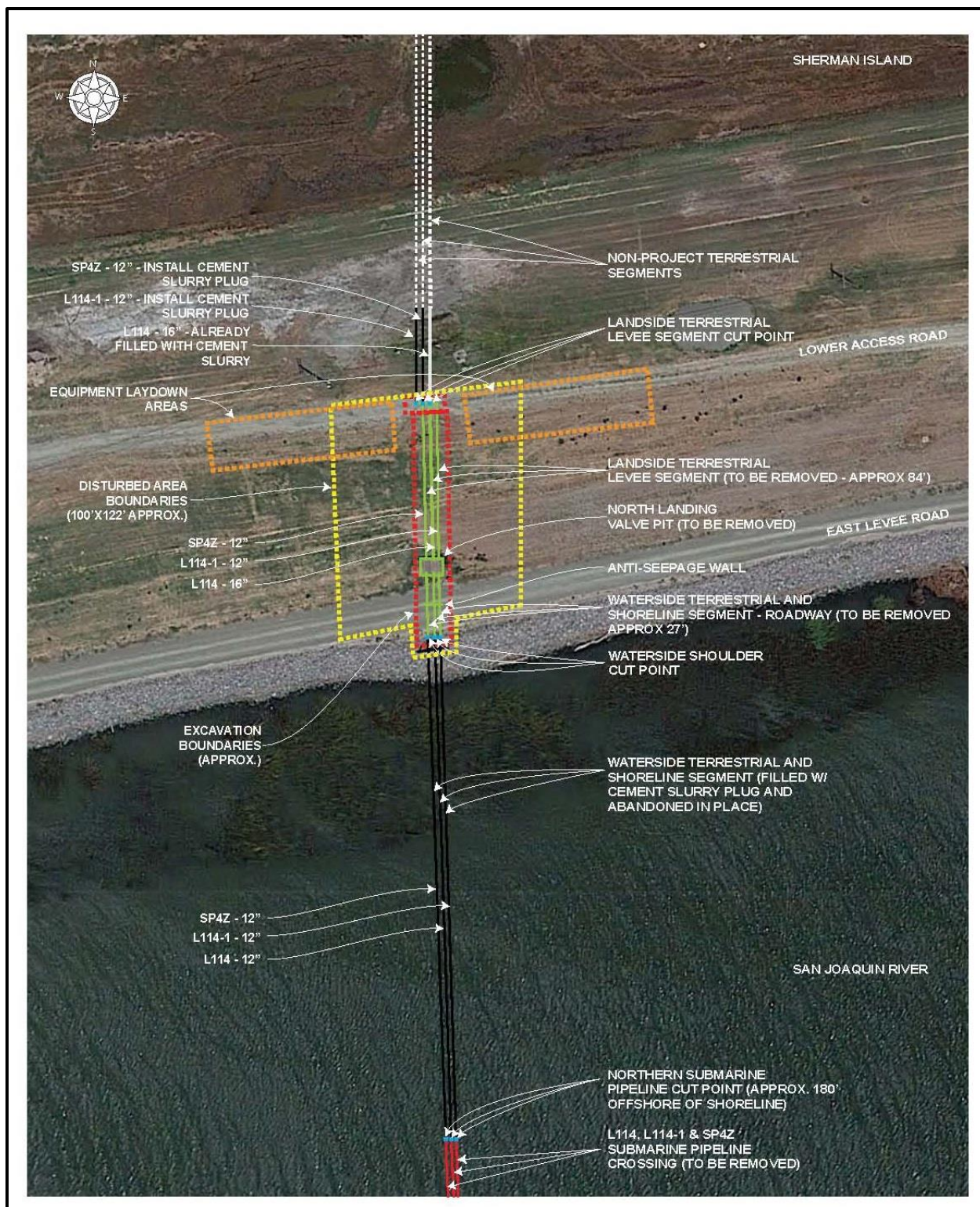


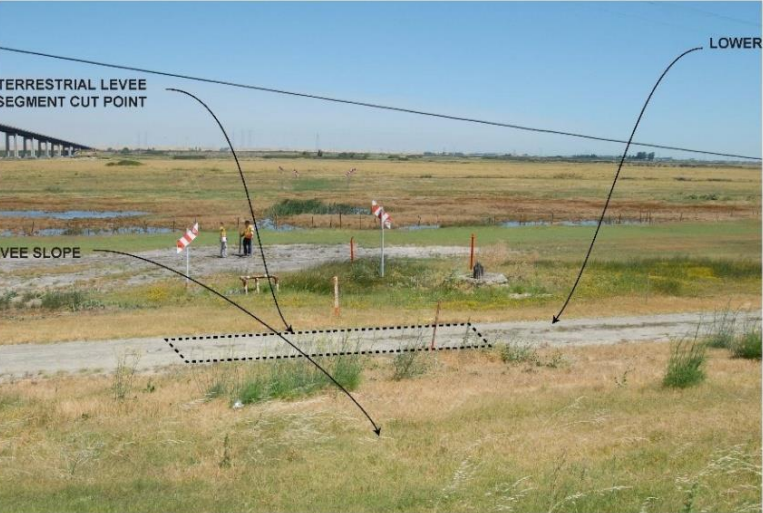


Figure 2-2. North Landing Areas of Disturbance



	<p><b>Sherman Island Levee Road at North Landing</b></p>
	<p><b>Valve Pit at North Landing</b></p>
	<p><b>Landside Terrestrial Segment Cut Point</b></p>

**Figure 2-3. North Landing Photographs**

Line 114 was previously filled with a cement slurry plug at this location. Once Line 114-1 and SP4Z have been plugged, all three pipeline segments between the landside terrestrial levee segment cut point and the north landing valve pit would be excavated and removed, a total distance of approximately 84 feet. According to PG&E survey information, burial depths of the terrestrial pipeline segments are 3 to 10 feet. Except for the installation of the cement slurry plugs in Line 114-1 and Line SP4Z, and capping of all three pipelines at the north landing's landside terrestrial levee segment cut point, the decommissioning of the terrestrial segments of these pipelines north of the north landing's landside terrestrial levee segment cut point is not included in this Project.

The north landing valve pit consists of a reinforced concrete cast-in-place vault that measures (outside dimensions) approximately 8.5 feet deep, 12.3 feet wide, and 6.75 feet high (at the landside wall), with a wall thickness of approximately 8 inches (Figure 2-3). It has a reinforced concrete floor of the same approximate thickness and may incorporate a floor drain and sump for draining rainwater into the surrounding soil from the valve pit. PG&E is proposing to demolish and remove the entire valve pit, piping and appurtenances. The north landing valve pit excavation would be backfilled and matched with existing levee slope with native soil acceptable to the Central Valley Flood Protection Board (CVFPB)/Reclamation District (RD) 341 and compacted to CVFPB/RD 341 requirements and the vegetation restored to pre-decommissioning conditions.

A PG&E marine navigation safety sign (see Figure 2-3) is located on the waterside slope of the Sherman Island levee over the three pipeline alignments. The purpose of the sign is to warn boaters and ship operators of the presence of the pipeline crossings. This is an approximately 8 foot by 12 foot wooden sign set on three 4 inch by 4 inch lumber posts, and three 2 inch by 8 inch lumber braces. This sign would be removed after the pipelines are decommissioned as it would no longer be necessary.

## **2.2.2 South Landing at Lauritzen Yacht Harbor**

The three pipelines come ashore at the Lauritzen Yacht Harbor and travel underground to the reinforced concrete valve pit located in the ground at the western boundary of the Lauritzen Yacht Harbor (Figures 2-4 and 2-5). The burial depth of the south landing's terrestrial and shoreline pipeline segment is approximately 5 feet under the riverbed as it comes ashore and 7 feet below ground surface between the shoreline and the southern valve pit. The horizontal length of each south landing terrestrial and shoreline pipeline segment is 731 feet, as measured from the southern submarine pipeline cut point to the north wall of the south landing's valve pit at Lauritzen Yacht Harbor.

The overall south landing work site boundaries measure approximately 601 feet by 50 feet. With the exception of the marine safety sign removal on the south shoreline, there is no disturbed area at this work site because no excavation would be required and all equipment would be confined to existing roadways within the Lauritzen Yacht Harbor.



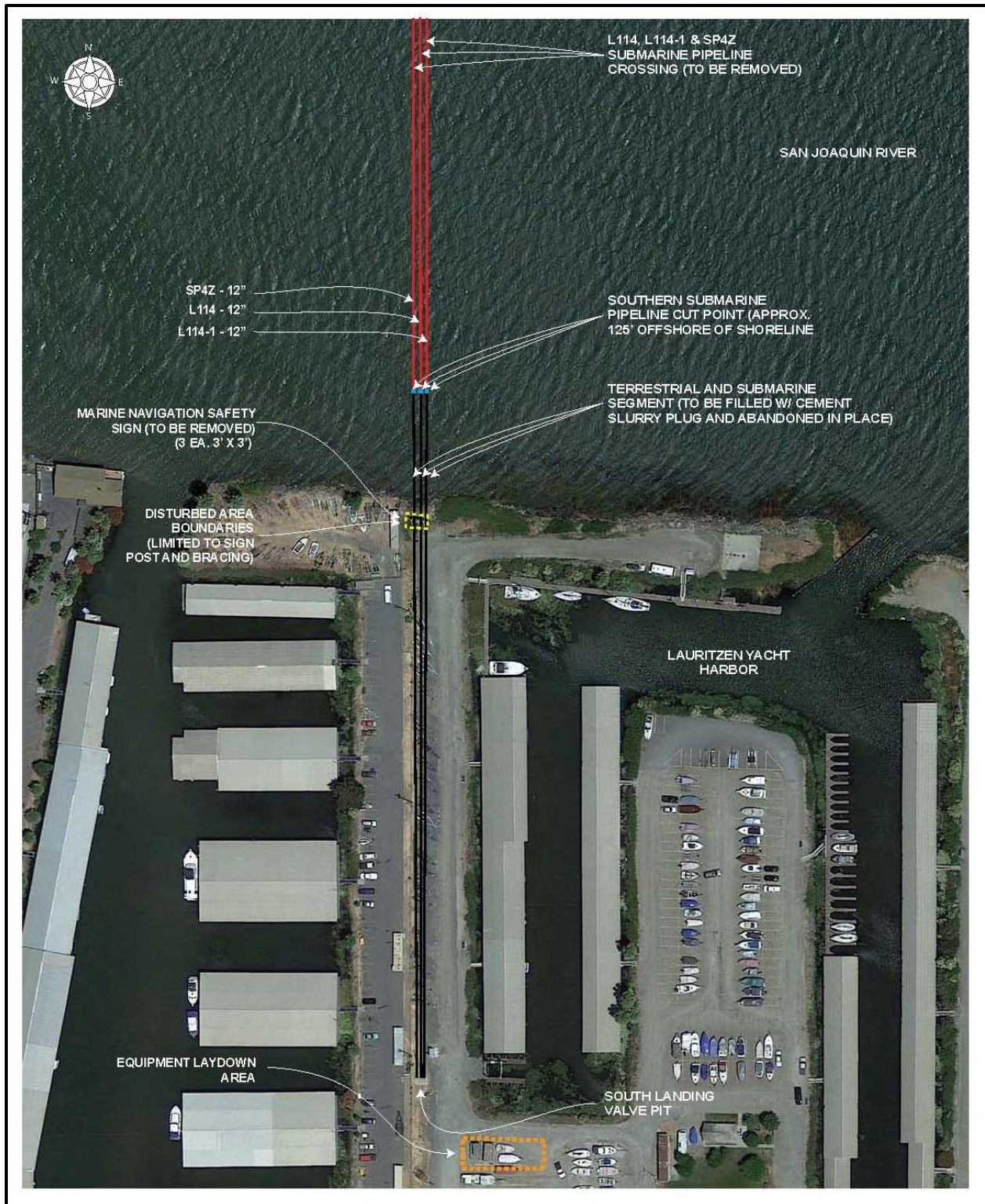


Figure 2-4. South Landing Areas of Disturbance



	<p><b>South Landing Valve Pit - Inside Lauritzen Yacht Harbor</b></p>
	<p><b>South Landing Marine Navigation Safety Sign to be Removed</b></p>

**Figure 2-5. South Landing Photographs**

- 1 The valve pit at the southern landing is not currently scheduled for decommissioning.
- 2 The three pipelines have been disconnected inside the south landing valve pit,
- 3 separating the submarine segments from their respective terrestrial pipelines that exit
- 4 the south side of the valve pit. This south landing valve pit and the three terrestrial
- 5 pipeline segments would be decommissioned by PG&E in the future (Figure 2-5).
- 6 A PG&E marine navigation safety sign is located on the shoreline of the south landing
- 7 approximately over the three pipeline alignments (see Figure 2-5). The purpose of the
- 8 sign is to warn boaters and ship operators of the presence of the pipeline crossings.
- 9 This is an approximately 8 foot by 12 foot wooden sign set on three 4 inch by 4 inch

lumber posts and three 2 inch by 8 inch lumber braces. This sign would be removed after the pipelines are decommissioned as it would no longer be necessary.

### 2.2.3 Pipeline Crossings - San Joaquin River

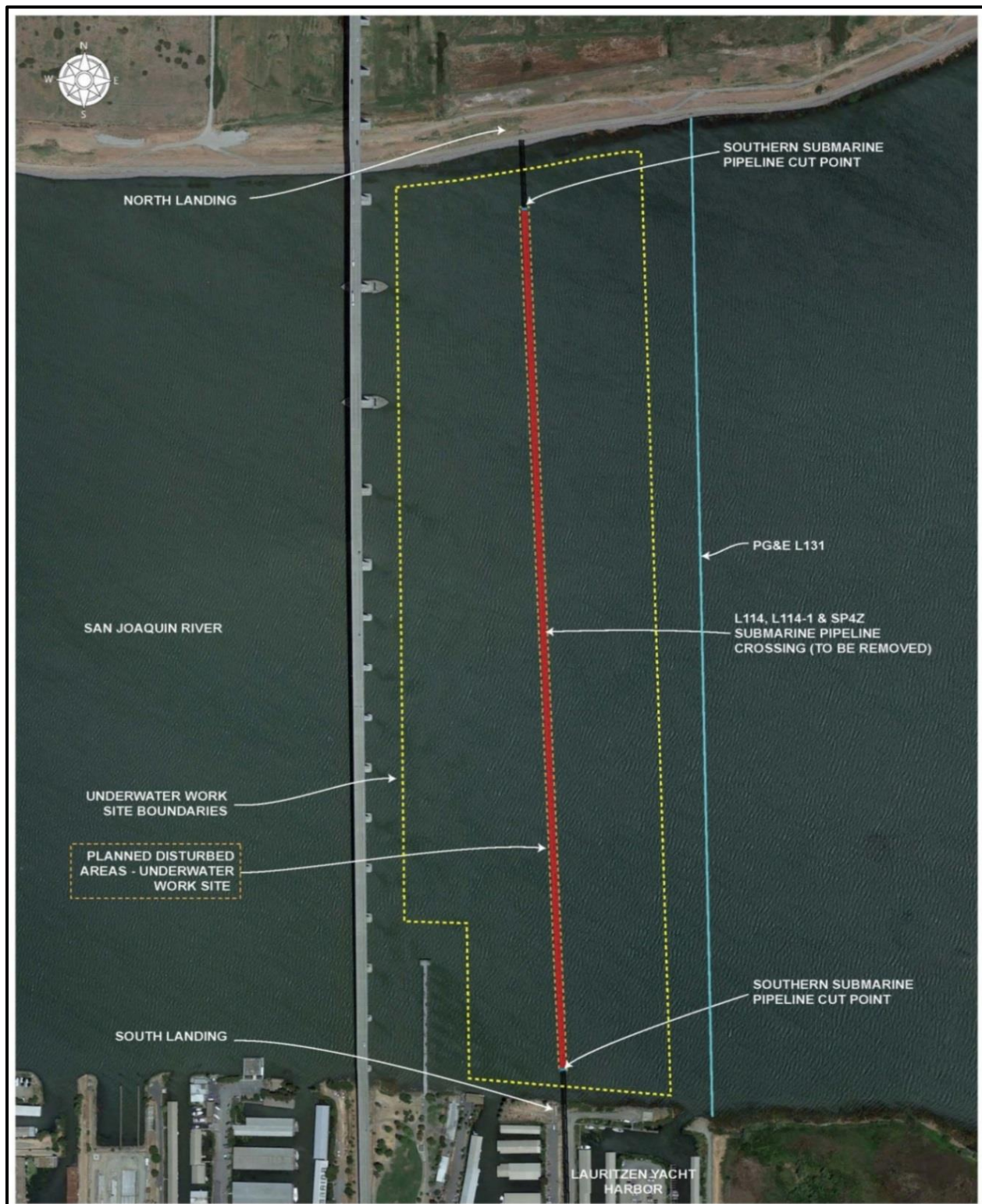
The submarine pipeline crossing segments within the underwater work sites:

- start at the northern submarine pipeline cut point located approximately 180 feet offshore of the northern shoreline of the San Joaquin River;
- run to the predesignated southern submarine pipeline cut point located approximately 130 feet offshore of the southern shoreline of the river; and
- are each approximately 3,519 feet in total horizontal length as measured from the northern to the southern submarine pipeline cut points.

The primary temporarily disturbed area within the underwater work site would consist of the excavations required to remove the submarine pipelines. This excavation corridor (or removal corridor if excavation is not required) is approximately 3,519 feet long by 12 feet wide (8 feet wide between Line 114-1 and Line SP4Z, plus 2 feet either side of these bordering pipelines), which equals an underwater disturbed area of approximately 42,228 square feet or 0.97 acre (Figure 2-6). Anchors used to moor the supporting derrick barge represent a second source of riverbed disturbance, but no excavation is required with their use and their impact is minimal (less than 78 square feet per anchor, assuming a disturbed area approximately 10 feet in diameter).

According to PG&E as-built drawings, the pipeline materials for all three pipeline segments consists of API-5L Grade B seamless steel pipe with an outside diameter of 12.75 inches and a wall thickness of 0.438 inch. The pipelines are coated with an external Somastic anti-corrosive and weight coating of unknown thickness, but assumed to be approximately 1 inch thick. Also, according to as-built drawings and past survey information, the three submarine pipelines may be bundled together or touching through portions of the crossing, but may also be separated by several feet through other portions of the crossing. The as-built drawings show Line 114-1 to be the easterly pipeline, Line 114 located approximately 3 feet to the west of Line 114-1 (centerline to centerline), and Line SP4Z located approximately 5 feet west of Line 114 (centerline to centerline). However, significant as-found deviations in apparent alignment spreads can be expected due to the difficulties inherent in constructing these submarine crossings in a river environment with extreme water currents. The exact horizontal and vertical locations of these three pipeline segments are unknown as they are buried under the riverbed and their locations have not been positively identified.





**Figure 2-6. San Joaquin River - Pipeline Crossing Area of Disturbance**

According to PG&E survey information, the maximum burial depth of the river crossings segments between the northern and the southern submarine pipeline cut points is approximately 10 feet. The average burial depth of the submarine pipeline crossings is approximately 5.5 feet. The maximum water depth of the crossing is approximately 40 feet (based on vertical datum, North American Datum of 1988 [NAVD88]).

#### **2.2.4 Shore Base**

An offsite shore base would be required to mobilize marine equipment and offload recovered submarine pipeline materials. This base would consist of dockside facilities with paved roadways where marine equipment would be mobilized and demobilized and where the recovered pipeline materials would be offloaded from a materials barge and loaded on to trucks for transportation to approved recycling or landfill facilities. The offsite shore base location would be selected by the decommissioning contractor and its location and facility description would be included in the Contractor Work Plan that would be developed by the decommissioning contractor and approved by the California State Lands Commission (CSLC) staff prior to the start of the decommissioning site work. For the purposes of the Project Execution Plan (PEP) and Mitigated Negative Declaration, the offsite shore base is assumed to be Mare Island in Solano County, a distance of approximately 30 miles from the offshore Project site in an industrially-developed area (Figure 2-7).

### **2.3 CONSTRUCTION PROCEDURES**

#### **2.3.1 North Landing at Sherman Island**

The onsite decommissioning activities would start with the work at the north landing (refer to Figure 2-2). The following steps would be taken to decommission the pipelines, valve pit, and navigation sign in this location. A brief description of these steps is provided below. For full construction procedures, please refer to the PEP (included within Appendix A).

- Waterside Terrestrial and Shoreline Segment Cementing Operations (Section 2.3.1.1).
- Landside Terrestrial Levee Segment Cementing Operation (Section 2.3.1.2).
- Landside Terrestrial Levee Segment Removal (Section 2.3.1.3).
- Waterside Terrestrial and Shoreline Segment Roadway Removal (Section 2.3.1.4).
- Valve Pit Demolition and Removal (Section 2.3.1.5).
- Marine Navigation Safety Sign Removal (Section 2.3.1.6).
- Site Restoration (Section 2.3.1.7).





Figure 2-7. Tentative Shore Base Location



#### 2.3.1.1 Waterside Terrestrial and Shoreline Segment Cementing Operations

Cement slurry plugs would be installed in the north landing's waterside terrestrial and shoreline pipeline segments (from the north landing valve pit to the northern submarine pipeline cut point). The plugs shall be installed to a point in each of the three pipelines approximately 50 feet south of the planned northern submarine pipeline cut point, a horizontal distance of approximately 285 feet south of the south wall of the north landing valve pit (181 feet south of the shoreline). The cement slurry plugs would be allowed to cure for a minimum of 24 hours before cutting the pipelines.

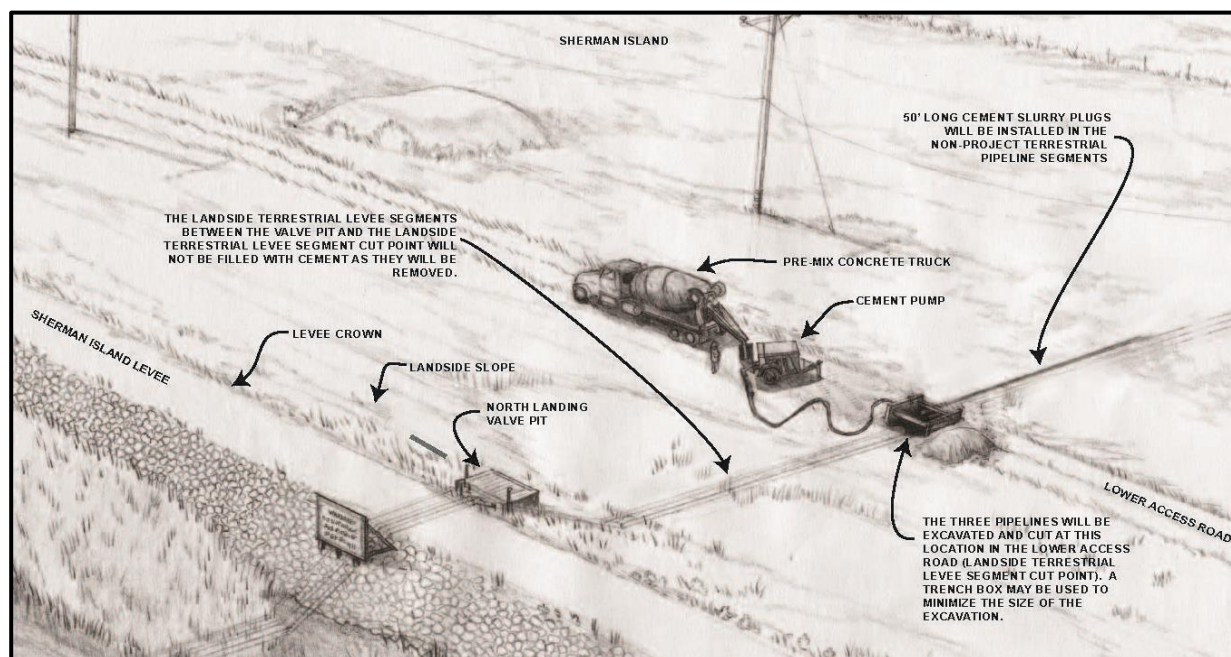
#### 2.3.1.2 Landside Terrestrial Levee Segment Cementing

The north landing's landside terrestrial levee segments of Line 114-1 and Line SP4Z would be filled with cement slurry plugs from the Landside Terrestrial Levee Segment Cut Point to a point 50 feet north. Line 114 is already filled with cement slurry and would not require additional cementing. To facilitate the cementing of Line 114-1 and Line SP4Z, all three pipelines would be excavated where they cross the levee's lower access road at a point approximately 15 feet north of the original toe of the levee (the landside terrestrial levee segment cut point).

The pipelines may be buried as deep as 10 feet below the roadway. The total excavation volume is estimated at approximately 71 cubic yards (cy). All three pipelines would be cut at this planned cut point (Figure 2-8).

At each cut point, a band of the pipeline's exterior coating would be removed and the removed coating captured for offsite disposal. Once the flanges have been installed on Line 114-1 and Line SP4Z, a foam pig would be placed inside of these two pipelines and a cement supply hose connected to the first of the two pipelines to receive the cement slurry plug. The purpose of the foam pig in each pipeline is to serve as a swab in front of the cement slurry flow pumped into each pipeline to ensure that the cement slurry is not permitted to run past the intended end of the cement slurry plug and to ensure that the plugged segments of pipeline are completely filled with cement slurry.

The equipment would be positioned on the lower access road near the open trench. A cement supply hose shall be connected to the concrete pump and the end of the first pipeline to receive the cement slurry plug. Approximately 8.5 cy of cement slurry would be required for each of the two terrestrial/shoreline pipeline segments. The volume of cement slurry placed in each pipeline would be controlled by placing a measured amount of cement slurry in each pipeline. Both pipelines would be pumped full of slurry to provide an approximately 50-foot-long cement plug.



**Figure 2-8. Cementing Landside Terrestrial Levee Segment (Northern Landing)**

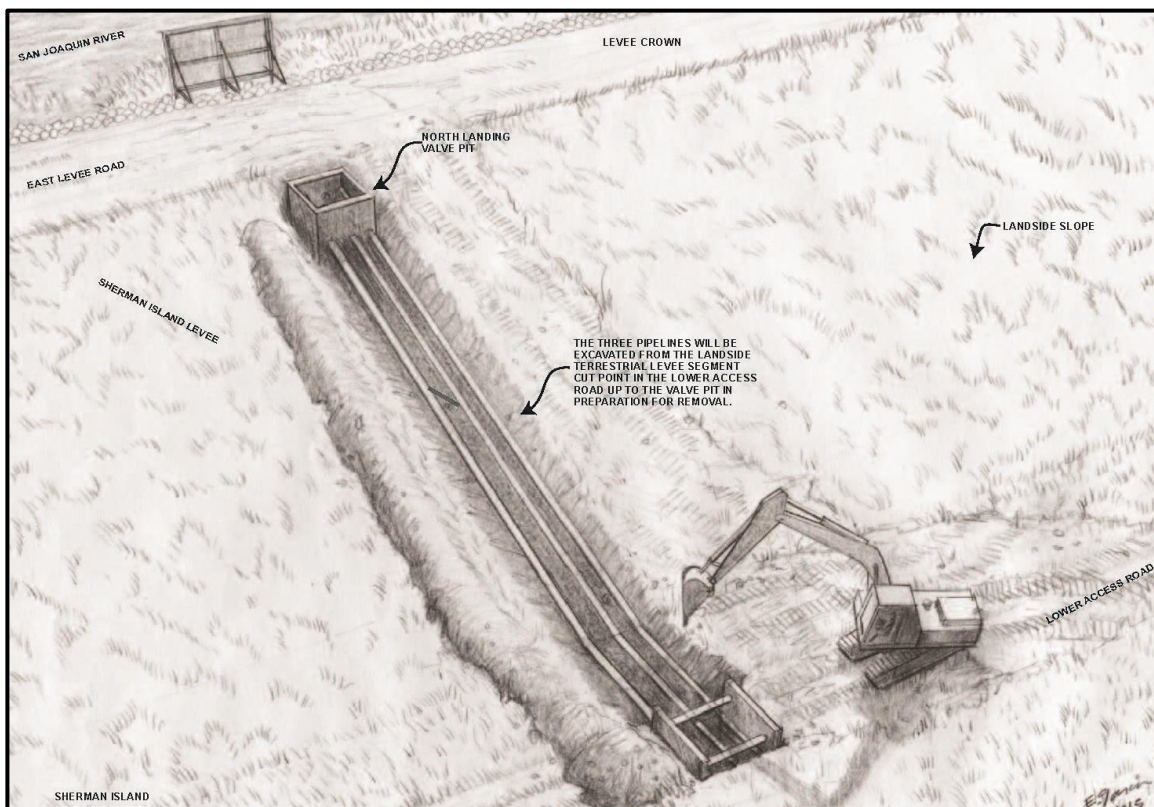
Upon completion of the installation of the cement slurry plugs in the two pipelines, and after the terrestrial segments of these pipelines have been removed up to the north landing valve pit, the flanges would be cut off the ends of Line 114-1 and Line SP4Z, and the stub ends of all three pipelines (Line 114, Line 114-1, and Line SP4Z) would be capped with 0.5-inch-thick steel plates welded to the pipe ends.

#### 2.3.1.3 Landside Terrestrial Levee Segment Removal

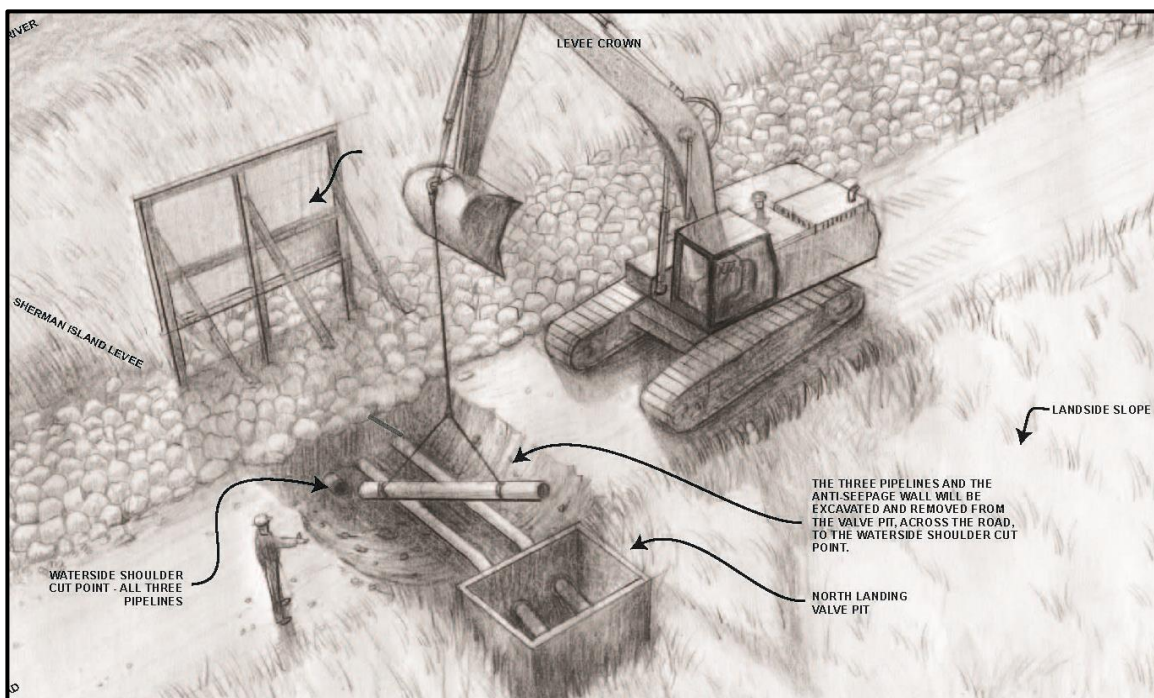
Upon completion of the installation of the cement slurry plugs in the north landing's landside terrestrial levee segments, the three pipeline segments between north landing's landside terrestrial levee segment cut point and the north landing valve pit would be removed. Removal would involve excavation of the three pipeline segments, cutting them into segments, removing them, trucking them offsite for disposal, and backfilling the excavated trench (Figure 2-9).

#### 2.3.1.4 Waterside Terrestrial and Shoreline Segment Roadway Removal

Upon completion of the north landing's landside terrestrial levee pipeline segment removals, the north landing's waterside terrestrial and shoreline pipeline segments would be decommissioned. These segments consist of three 12-inch-diameter nominal pipelines that exit the waterside (south) wall of the north landing valve pit, pass underneath the roadway on the crown of the Sherman Island levee, down the waterside slope of the levee, and underneath the riverbed where they would terminate at the northern submarine pipeline cut points (Figure 2-10).



**Figure 2-9. Landside Terrestrial Levee Segment Excavation and Removal**



**Figure 2-10. Waterside Terrestrial and Shoreline Segment Excavation and Removal**



1 These pipe segments would have already been filled with cement slurry plugs in the  
2 initial decommissioning work at the north landing and the sections of pipe from the valve  
3 pit to south side of the levee crown would be ready for removal.

4 Removal would start by excavating the three pipeline segments from the valve pit, up  
5 the levee slope, and across the roadway on the levee crown to the south shoulder of the  
6 levee crown (just before the ridgeline of the riprap rock slope on the waterside slope of  
7 the levee), a distance of approximately 27 feet. At approximately 15.7 feet from the  
8 south wall of the valve pit, the pipelines pass through a reinforced concrete anti-  
9 seepage wall embedded in the levee road. This anti-seepage wall would also be  
10 excavated and removed.

11 The anti-seepage wall measures approximately 8 inches in thickness, 4 feet in height,  
12 and 13.25 feet in width. Assuming approximately 2 feet of cover over the anti-seepage  
13 wall, the total excavation depth is projected to be approximately 6 feet at the anti-  
14 seepage wall to completely expose the pipeline segments. The total excavation volume,  
15 including the pipeline segments and the anti-seepage wall, is estimated at  
16 approximately 60 cy (50 cy of road base spoils plus 10 cy of recovered pipe and  
17 concrete rubble).

18 Once exposed, the three pipelines would be cut near the south shoulder of the crown at  
19 the predesignated waterside shoulder cut point in preparation for removal. The cut  
20 pipelines would be removed across the roadway to the valve pit and the anti-seepage  
21 wall would be demolished and removed. The remaining waterside terrestrial and  
22 shoreline segments (from the waterside shoulder cut point to the northern submarine  
23 pipeline cut point), which were previously filled with cement slurry in the earlier  
24 cementing operation, would then be capped with 0.5-inch-thick steel plates welded to  
25 the pipe ends, and abandoned in place. These segments extend approximately 180 feet  
26 south (offshore) of the northern shoreline of the San Joaquin River.

27 The total weight of the recovered pipe segments is estimated to be 6 tons (including  
28 cement inside the pipe segments). One 10-ton dump truck trip is projected to haul off  
29 the recovered pipe. The concrete and rebar debris from the demolished anti-seepage  
30 wall, which has an estimated weight of 4 tons, may be hauled off with the recovered  
31 pipe segments for recycling or disposal. A second 10-ton dump truck trip may be  
32 required to haul off the concrete and rebar debris, resulting in a total of two 10-ton dump  
33 truck trips. The Sherman Island East Levee Roadway would be backfilled and  
34 compacted to CVFPB/RD 341 requirements (Title 23 Standards). The roadway would  
35 be returned to existing contours.

### 2.3.1.5 Valve Pit Demolition and Removal

The north landing valve pit would be demolished and removed in its entirety. First, all piping that passes through the valve pit would be removed. Once the piping has been removed, the concrete valve pit would be broken up with an excavator-mounted breaker or similar equipment. The concrete and rebar rubble would be recovered, loaded on a truck and shipped offsite for recycling or disposal. After the concrete and rebar rubble has been removed, the underlying and surrounding soil, including the area around the drain pipe and its down slope termination point, shall be sampled for presence of any contaminants that exceed allowable regulatory limits. If contaminated soil is found, it will be removed and properly disposed of at an approved offsite facility.

The valve pit excavation would be backfilled and matched with existing levee slope with native soil acceptable to the CVFPB/RD 341 and compacted to CVFPB/RD 341 requirements (to Title 23 Standards). The Sherman Island East Levee Road would also be backfilled and compacted (to Title 23 Standards) at this time. The valve pit decommissioning is expected to generate approximately 20 tons of concrete and rebar rubble. Assuming no contaminated soil is found under or around the valve pit and no excavation work is required to remove contaminated soil, the valve pit excavation would require approximately 15 cy of imported native backfill (clean, screened dirt excavated from the slopes of Mount Diablo). The roadway excavation would require approximately 60 cy of road base backfill. The spoils from the levee roadway excavation would provide approximately 50 cy of road base backfill. An additional 10 cy (approximately) of imported road base backfill would be required to restore the roadway to original contours. It is estimated that two 10-ton dump truck trips would be required to haul off the concrete and rebar rubble, and two 10-ton dump truck trips would be required to import the required additional road base materials.

### 2.3.1.6 Marine Navigation Safety Sign Removal

The marine navigation safety sign located on the south shoulder of the Sherman Island levee would be removed in its entirety, including the lumber posts and their cement post holes and the area returned to pre-Project conditions. The recovered wood debris, which has an estimated weight of 500 pounds or less, would be trucked offsite for recycling or disposal.

### 2.3.1.7 Site Restoration

Site restoration at the north landing shall take place after Project-related trenches have been backfilled and compacted to grade. Site restoration shall consist of grading the backfilled and compacted trenches to match pre-existing surrounding contours and then reseeding or re-vegetating the disturbed areas using the seed mix approved by RD 341.

## 2.3.2 South Landing at Lauritzen Yacht Harbor

The work at the south landing would begin with opening the three pipeline terminations inside the valve pit at the Lauritzen Yacht Harbor to vent the pipelines while the cement slurry plug is installed in the north landing's waterside terrestrial and shoreline pipeline segments. The following steps would then be taken to decommission the pipelines and navigational sign in this location. For full construction procedures, please refer to the PEP (included within Appendix A).

- Pipeline Venting During Installation of Cement Slurry Plugs in North Landing (Section 2.3.2.1).
- Terrestrial and Submarine Pipeline Segment Cementing (Section 2.3.2.2).
- Marine Navigation Safety Sign Removal (Section 2.3.2.3).

### 2.3.2.1 Pipeline Venting During Installation of Cement Slurry Plugs in North Landing Waterside Terrestrial and Shoreline Segment

Once the cement slurry plugs have been installed in the north landing's waterside terrestrial and shoreline pipeline segments, the blind flanges that were loosened or removed shall be temporarily re-installed until the cementing of the south landing's terrestrial and submarine pipeline segment occurs. The total amount of air or gas displaced from the three pipelines by the installation of the cement slurry plugs is limited to the length of the cement slurry plugs (planned at approximately 285 feet in the north landing's waterside terrestrial and shoreline pipeline segments).

### 2.3.2.2 Terrestrial and Submarine Pipeline Segment Cementing

After the pipelines have been cut at the northern submarine pipeline cut point, a terrestrial crew would return to the south landing to install cement slurry plugs in the south landing's terrestrial and submarine pipeline segments. The reason for this particular order of completion is because the cement slurry plug installations at the south landing would displace air or gas in the pipelines that must be vented through the open ends of the cut pipelines offshore of the north landing.

All three pipelines are already terminated with 12-inch-diameter flanges and would be ready for cementing. The crews would remove the blind flanges attached to the pipe ends and place a foam pig inside of each of the three open pipeline ends. A cement supply hose would be connected to the first of the three pipelines to receive the cement slurry plug. The purpose of the foam pig in each pipeline is to serve as a swab in front of the cement slurry flow pumped into each pipeline to ensure that the cement slurry is not permitted to run past the intended end of the cement slurry plug, and that the plugged segments of pipeline are completely filled with cement slurry.

1 The total length of each cement slurry plug would be approximately 781 feet long (50  
2 feet past the planned southern submarine pipeline cut point). Approximately 35.3 cy of  
3 cement slurry would be required for each of the three south landing's waterside  
4 terrestrial and shoreline segments. The volume of cement slurry placed in each pipeline  
5 would be controlled by placing a measured amount of cement slurry in each pipeline.

6 When the installation of the cement slurry plugs in the three pipelines has been  
7 completed, the flanges would be cut off each pipeline approximately 12 inches off of the  
8 waterside (north) interior wall of the south landing valve pit. These stub ends would be  
9 capped with 0.5-inch-thick steel plates welded to the pipe ends. This would complete  
10 the abandonment in place of the three pipelines at the south landing.

#### 11 2.3.2.3 Marine Navigation Safety Sign Removal

12 The marine navigation safety sign located on the shoreline of the Lauritzen Yacht  
13 Harbor, over the pipeline alignments, would be removed down to ground level and the  
14 remaining cemented post holes abandoned in place. The recovered wood debris, which  
15 has an estimated weight of 500 pounds or less, would be trucked offsite for recycling or  
16 disposal.

17 The terrestrial crew at the south landing would demobilize once the cement plugs have  
18 been installed in the pipeline ends at the south landing and the marine safety sign at the  
19 south landing has been removed.

### 20 2.3.3 Pipeline Crossings - San Joaquin River

21 Line 114, Line 114-1, and Line SP4Z cross the San Joaquin River between Sherman  
22 Island and the City. The marine crews would work across the river excavating and  
23 removing the three inactive pipelines. The work would be performed by a marine work  
24 spread of floating equipment and crews that includes an anchored derrick barge. The  
25 pipelines may be excavated, raised to the deck of the derrick barge and cut into  
26 sections, or the pipelines may be pulled up through the riverbed overburden without  
27 excavation and cut into sections, conditions permitting. In either case, the recovered  
28 pipeline segments would be cut into sections and transported to the offsite shore base  
29 for offloading and trucking to recycling or disposal facilities.

30 The following steps would be taken to decommission the pipelines and navigational sign  
31 in this location. A brief description of these steps is provided below. For full construction  
32 procedures, please refer to the PEP (included within Appendix A).

- 33 • Northern Pipeline Cutting Operation (Section 2.3.3.1).
- 34 • Submarine Pipeline Removal Operations (Section 2.3.3.2).
- 35 • Southern Pipeline Cutting Operation (Section 2.3.3.3).

#### 2.3.3.1 Northern Pipeline Cutting Operation

A baseline riverbed debris survey would be performed prior to the arrival of the decommissioning contractor's marine equipment at the Project site. The baseline debris survey would consist of a side-scan sonar with 400 percent coverage and a bathymetric survey of the entire underwater work site. A pre-decommissioning survey map would be provided to the agencies upon completion of the survey work and map production.

The marine work would begin at the northern submarine pipeline cut point located approximately 180 feet offshore of the northern shoreline of the San Joaquin River in approximately 20 feet of water where the pipeline is buried approximately 5 feet below the riverbed.

The marine work would take place from a derrick barge anchored over the site. The derrick barge would be equipped with a four-point mooring system and spuds and would be anchored in accordance with the Project Marine Safety and Anchoring Plan (please refer to the PEP included within Appendix A). The derrick barge would be tended by a tugboat that would tow the derrick barge and set and recover its anchors in accordance with the Anchoring Plan.

Some underwater excavation work would be required prior to cutting the pipeline. The excavation would be performed with either a Toyo submersible pump excavation system or by hand jetting using a diver held hand jet supplied by a skid mounted jet pump on the deck of the derrick barge. In the event that a Toyo submersible pump or airlift is used it would be operated by the derrick barge crane. The submersible pump or airlift would be positioned over the submerged and buried pipelines using a full time, real time, differential global positioning system (DGPS) with sub-meter accuracy. A DGPS antenna would be placed on the tip of the derrick barge crane boom to provide an exact horizontal position of the submersible pump or airlift when deployed by the crane. A video monitor with a real time display of the DGPS survey data would also be stationed in the derrick barge crane operator's cab and the pipeline alignments and the derrick barge positions and crane boom tip, with submersible pump or airlift suspended underneath, would be displayed in real time on the crane cab video monitor. This would enable the crane operator to place the submersible pump or airlift directly over the pipeline alignments. The crane operator would lower the submersible pump or air lift until it touches the riverbed at the precise location of excavation and then turn on the submersible pump or airlift to perform a single pothole excavation. Once the submersible pump or airlift reaches the desired excavation depth (top of pipeline) the submersible pump or airlift would be turned off and the submersible pump or airlift raised back above the riverbed and positioned for the next pothole excavation. This process would be repeated for each section of pipeline requiring excavation. This underwater excavation method is very precise and all submersible pump or airlift operations would take place at or below the riverbed (no operation in the water column).



1 in order to prevent entrainment or impingement of fish. The excavated sandy sediments  
2 that characterize the channel bottom within the Project area are expected to rapidly  
3 settle to the bottom.

4 The exact cut point on each pipeline would be located by positioning an underwater  
5 “plumb bob” (heavy chain) suspended from the derrick barge crane, and tracked by the  
6 DGPS system’s crane boom tip antenna, directly over each cut point on the three  
7 pipelines. The divers would mark each position and then cut the pipelines. The cuts  
8 would be made within the cement slurry plugs in each pipeline, leaving an  
9 approximately 50 feet long cement plug in each of the three pipelines offshore of the cut  
10 point. This would be done to ensure that the underwater ends of the pipelines  
11 abandoned in place beneath the riverbed are completely filled with cement.

12 The pipelines would be cut using underwater cutting equipment. This equipment may  
13 consist of a hydraulically powered underwater guillotine saw (WACH Guillotine Model D  
14 Hydraulic Saw or equivalent) or underwater oxy-arc cutting equipment. Prior to cutting  
15 each pipeline, a band of coating would be removed at each cut point to facilitate a clean  
16 cut. The coating chips would be recovered to the extent that the underwater river  
17 conditions and water currents permit.

#### 18 2.3.3.2 Submarine Pipeline Removal Operations

19 Once the pipelines have been cut, the derrick barge would begin excavating one of the  
20 three pipelines for a pre-determined distance from the cut point south to expose enough  
21 of the pipeline to bring the pipeline to the surface and place the end of the pipeline on  
22 the derrick barge deck. The excavation length may range between 100 to 500 feet.

23 One of two methods may be used to recover the submarine pipeline segments. The first  
24 method would involve excavating all or part of each pipeline, returning to the pipeline  
25 end, raising the pipeline end to the deck of the derrick barge, then cutting the pipeline  
26 into sections on the deck of the derrick barge. The cranes would lift the pipeline and the  
27 derrick barge would underrun the suspended pipeline, following it across the river.  
28 Alternatively, conditions permitting, the pipelines may be pulled up vertically through the  
29 riverbed overburden by the derrick barge crane, without excavation.

30 The recovered pipeline segments would be cut into sections as the pipe is brought  
31 aboard the derrick barge and the cut sections would be placed on a materials barge or  
32 hopper barge for shipment to the shore base and then offloaded onto trucks for ground  
33 transportation to recycling or disposal facilities. The total dry weight of the three  
34 submarine pipeline segments scheduled for removal is estimated to be 474 tons or 158  
35 tons per pipeline. The barge projected for use on this decommissioning Project would  
36 be capable of carrying in excess of 2,000 tons of cargo, so the 474 tons of recovered

1 pipe can be stored at the work site and towed back to the shore base at the end of the  
2 Project, thereby reducing the tug and barge offloading trips to a single trip.

3 If the pipelines cannot be pulled up through the riverbed, based on a trench no wider  
4 than 12 feet, average 5.5 feet deep, and 3,519 feet in length, approximately 8,616 cy of  
5 excavation could be required (refer to section 2.3.3.1 and the PEP [Appendix A] for  
6 further details on excavation procedures and equipment). The excavation estimate is  
7 projected as a worst-case and assumes that the pipelines are not bundled and that  
8 each pipeline would require an individual trench. It is possible that over the length of the  
9 crossings that the three pipelines may be located very close together and possibly even  
10 touching. If this is the case, the excavation requirement may be reduced by 50 percent  
11 or more.

#### 12 2.3.3.3 Southern Submarine Pipeline Cutting Operation

13 The southern pipeline cut point is located approximately 130 feet offshore of the  
14 southern shoreline of the San Joaquin River in approximately 10 feet of water and at a  
15 point where the pipeline is buried approximately 5 feet below the riverbed. The exact cut  
16 point on each pipeline would be located by positioning an underwater “plumb bob”  
17 (heavy chain) suspended from the derrick barge crane, and tracked by the DGPS  
18 system’s crane boom tip antenna, directly over each cut point on the three pipelines.  
19 The divers would mark each position and then cut the pipelines. The cuts would be  
20 made within the cement slurry plugs in each pipeline, leaving an approximately 50 feet  
21 long cement plug in each of the three pipelines offshore of the cut point. This would be  
22 done to ensure that the underwater ends of the pipelines abandoned in place  
23 underneath the riverbed are completely filled with cement.

24 The pipelines would be cut using underwater cutting equipment. This equipment may  
25 consist of a hydraulically powered underwater guillotine saw (WACH Guillotine Model D  
26 Hydraulic Saw or equivalent) or underwater oxy-arc cutting equipment. Prior to cutting  
27 each pipeline a band of coating would be removed at each cut point to facilitate a clean  
28 cut. The coating chips would be recovered to the extent that the underwater river  
29 conditions and water currents would permit.

30 The marine crew would demobilize once the submarine pipeline segments have been  
31 removed and the post-decommissioning debris survey has been completed.

### 32 **2.4 EQUIPMENT AND PERSONNEL REQUIREMENTS**

33 Anticipated equipment and personnel requirements for each phase of the  
34 decommissioning Project are provided in Tables 2-3 through 2-6 below.

**Table 2-3. Debris Survey -  
Equipment and Personnel Requirements**

	Pre-Decommissioning				Post-Decommissioning			
	Qty.	Hrs.	Days	Total Hrs.	Qty.	Hrs.	Days	Total Hrs.
<b>Personnel</b>								
Environmental Monitor	1	10	1	10	1	10	1	10
Marine Surveyor/Survey Boat Captain	1	10	1	10	1	10	1	10
Marine Surveyor Technician	2	10	1	20	2	10	1	20
<b>Equipment</b>								
Survey Boat - Main Engine 298 horsepower (hp)	1	10	1	10	1	10	1	10

**Table 2-4. North Landing Decommissioning -  
Equipment and Personnel Requirements**

	Qty.	Hrs.	Days	Total Hrs.
<b>Personnel</b>				
Project Manager	1	10	35	350
Environmental Monitor	1	10	35	350
Supervisor	1	10	35	350
Operators - Excavator/Skip Loader/Compactor	2	10	35	700
Welder/Helper	2	10	10	200
Concrete Pump Crew	3	10	7	210
Laborers	2	10	31	620
<b>Equipment</b>				
Concrete Pump - Cummins 220 hp	1	8	7	56
Welding Machine - 300 AMP /24.7 hp	1	6	10	60
Industrial Air Compressor (185CFM/61 hp)	1	6	6	36
Skip Loader - CAT 450/127 hp	1	8	5	40
Compactor - CAT CP54/131	1	8	5	40
Excavator w/ Breaker - CAT 329/286 hp	1	8	5	40

**Table 2-5. South Landing Decommissioning -  
Equipment and Personnel Requirements**

	Qty.	Hrs.	Days	Total Hrs.
<b>Personnel</b>				
Environmental Monitor	1	10	13	130
Supervisor	1	10	13	130
Welder	1	10	3	30
Concrete Pump Crew	3	10	7	210
Laborers	2	10	13	260
<b>Equipment</b>				
Concrete Pump - Cummins 220 hp	1	8	7	56
Welding Machine - 300 AMP/24.7 hp	1	8	3	24

**Table 2-6. Submarine Pipeline/River Crossings Removal Operations - Equipment and Personnel Requirements**

	Qty.	Hrs.	Days	Total Hrs.
<b>Personnel</b>				
Project Manager	1	10	30	300
Environmental Monitor	1	10	30	300
Barge Superintendent	1	10	30	300
Barge Crane Operator	1	10	30	30
Riggers/Welders	4	10	30	1200
Tugboat Crew	2	10	30	600
Divers	6	10	30	1800
Surveyor	1	10	30	300
<b>Equipment</b>				
Derrick Barge - Generator - 100 hp	1	24	42	1008
Derrick Barge - Crane - 150 hp	1	9	30	270
Anchor Winches - RB-90s - 238 hp	2	2	30	120
Deck Winch - RB-90/238 hp	1	4	30	120
Tugboat - Mains - 250 hp	2	6	30	360
Tugboat - Generator - 75 hp	1	24	42	1008
Welding Machine - 300 AMP/24.7 hp	1	2	6	12
Jet Pump - 250 hp	1	8	30	240
300 kW Diesel Driven Generator (Toyo Pump) - 463 hp	1	8	30	240
5120 Diver's Air Compressor - 47 hp	1	8	20	160
Work Skiff - Outboards/250 hp	2	2	30	120

## 1 2.5 PROJECT SCHEDULE

2 Project implementation is tentatively planned during the recommended environmental  
3 aquatic work window of August 1 through October 31, 2015. The total duration of the  
4 decommissioning is anticipated to take approximately 60 days, not including the pre-  
5 and post-remediation debris surveys, based on working no more than 6 days per week  
6 and one 10 to 12 hour shift per day. PG&E anticipates that each decommissioning work  
7 phase would take the following approximate amount of time to complete.

Phase	Approximate Timing	
Mobilize Contractor Equipment to Site and Start Pre-Decommissioning Debris Survey	1 week	
North Landing Decommissioning	5 weeks	To be conducted concurrently
South Landing Decommissioning	2 weeks	
Submarine Pipeline Decommissioning	6 weeks	
Complete Post-Decommissioning Debris Survey	1 week	

### 3.0 ENVIRONMENTAL CHECKLIST AND ANALYSIS

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This section contains the Initial Study (IS) that was completed for the proposed Pacific Gas and Electric (PG&E) (PG&E or Applicant) Line 114, Line 114-1, and Line SP4Z Pipeline Decommissioning Project (Project) in accordance with the requirements of California Environmental Quality Act (CEQA). The IS identifies site-specific conditions and impacts, evaluates their potential significance, and discusses ways to avoid or lessen impacts that are potentially significant. The information, analysis, and conclusions included in the IS provide the basis for determining the appropriate document needed to comply with CEQA. For the Project, based on the analysis and information contained herein, California State Lands Commission (CSLC) staff has found that the IS shows that there is substantial evidence that the Project may have a significant effect on the environment, but revisions to the Project would avoid the effects or mitigate the effects to a point where clearly no significant effect on the environment would occur. As a result, the CSLC has concluded that a Mitigated Negative Declaration (MND) is the appropriate CEQA document for the Project.

The evaluation of environmental impacts provided in this IS is based in part on the impact questions contained in Appendix G of the State CEQA Guidelines; these questions, which are included in an impact assessment matrix for each environmental category (Aesthetics, Agriculture/Forest Resources, Air Quality, Biological Resources, etc.), are “intended to encourage thoughtful assessment of impacts.” Each question is followed by a check-marked box with column headings that are defined below.

- **Potentially Significant Impact.** This column is checked if there is substantial evidence that a Project-related environmental effect may be significant. If there are one or more “Potentially Significant Impacts,” a Project Environmental Impact Report (EIR) would be prepared.
- **Less than Significant with Mitigation.** This column is checked when the Project may result in a significant environmental impact, but the incorporation of identified Project revisions or mitigation measures would reduce the identified effect(s) to a less than significant level.
- **Less than Significant Impact.** This column is checked when the Project would not result in any significant effects. The Project’s impact is less than significant even without the incorporation of Project-specific mitigation measures.
- **No Impact.** This column is checked when the Project would not result in any impact in the category or the category does not apply.

The environmental factors checked below would be potentially affected by this Project; a checked box indicates that at least one impact would be a “Potentially Significant Impact” except that the Applicant has agreed to Project revisions, including the

- 1 implementation of mitigation measures, that reduce the impact to “Less than Significant  
2 with Mitigation.”

<input checked="" type="checkbox"/> Aesthetics	<input type="checkbox"/> Agriculture and Forest Resources	<input checked="" type="checkbox"/> Air Quality
<input checked="" type="checkbox"/> Biological Resources	<input checked="" type="checkbox"/> Cultural Resources	<input type="checkbox"/> Geology and Soils
<input type="checkbox"/> Greenhouse Gas Emissions	<input checked="" type="checkbox"/> Hazards and Hazardous Materials	<input checked="" type="checkbox"/> Hydrology and Water Quality
<input type="checkbox"/> Land Use and Planning	<input type="checkbox"/> Mineral Resources	<input checked="" type="checkbox"/> Noise
<input type="checkbox"/> Population and Housing	<input type="checkbox"/> Public Services	<input type="checkbox"/> Recreation
<input checked="" type="checkbox"/> Transportation/Traffic	<input type="checkbox"/> Utilities and Service Systems	
<input type="checkbox"/> Mandatory Findings of Significance		
<input checked="" type="checkbox"/> Other Major Areas of Concern: Environmental Justice		

- 3 Detailed descriptions and analyses of impacts from Project activities and the basis for  
4 their significance determinations are provided for each environmental factor on the  
5 following pages, beginning with Section 3.1, Aesthetics. Relevant laws, regulations, and  
6 policies potentially applicable to the Project are listed in the Regulatory Setting for each  
7 environmental factor analyzed in this IS.

## 8 AGENCY DETERMINATION

- 9 Based on the environmental impact analysis provided by this Initial Study:

- ☐ I find that the proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION will be prepared.
- ☒ I find that although the proposed project could have a significant effect on the environment, there will not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION will be prepared.
- ☐ I find that the proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required.



10 Signature

June 4, 2015  
Date

11 Cynthia Herzog, Senior Environmental Scientist  
12 Division of Environmental Planning and Management  
13 California State Lands Commission

### 1 3.1 AESTHETICS

AESTHETICS - Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Have a substantial adverse effect on a scenic vista?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Substantially degrade the existing visual character or quality of the site and its surroundings?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 2 3.1.1 Environmental Setting

3 The majority of Project activities would occur offshore within the San Joaquin River  
4 aboard the pipeline removal and support vessels. The Project site can be seen from the  
5 Senator John A. Nejedly Bridge (Antioch Bridge – State Route [SR] 160) within the San  
6 Joaquin River Delta as well as from passing recreational or commercial vessels using  
7 the River. SR 160 is a designated State and County scenic highway from the  
8 Sacramento County- Contra Costa County border (i.e., from the approximate mid-point  
9 of the Antioch Bridge crossing of the San Joaquin River) to Sacramento (California  
10 Department of Transportation [Caltrans] 2013).

11 Limited onshore activities would occur within Sacramento County (to the north of the  
12 San Joaquin River) and the city of Oakley (City) in Contra Costa County (to the south of  
13 the San Joaquin River). The northern landing of the pipeline terminus is located within  
14 an onshore valve pit on Sherman Island in Sacramento County within the Delta  
15 Community Planning Area. According to the Delta Community Area Plan, Sherman  
16 Island is a significant natural resource area, which offers “scenic views of a natural area  
17 or an area demonstrating open space qualities” (County of Sacramento 1983).  
18 According to the Sacramento County General Plan Existing Scenic Highways and  
19 Scenic Corridors Map (2011), the Sherman Island East Levee Road is also considered  
20 a “scenic corridor” within the Project area.

21 The southern landing of the pipeline corridor is located adjacent to the Lauritzen Yacht  
22 Harbor and terminates in a subterranean valve pit. Lauritzen Yacht Harbor is a privately  
23 owned marina that provides berths for recreational boaters, a gas dock, and boat  
24 launching facilities. According to the City’s 2020 General Plan (City of Oakley 2010), the  
25 predominant visual feature of this area is the San Joaquin River Delta. Views of the

Delta are only visible from the waterfront marinas and a public park (Big Break Regional Shoreline, located within a residential zone 1 mile east of the Project area). The proposed contractor's shore base lies within industrial and unrestricted zoned areas away from the Project site.

### 3.1.2 Regulatory Setting

#### 3.1.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.1-1.

**Table 3.1-1. Laws, Regulations, and Policies (Aesthetics)**

CA	California Scenic Highway Program	The California Scenic Highway Program, managed by the California Department of Transportation, was created to preserve and protect scenic highway corridors from change that would diminish the aesthetic value of lands adjacent to highways. State highways identified as scenic, or eligible for designation, are listed in California Streets and Highways Code section 260 et seq.
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#### 3.1.2.2 Local

### Contra Costa County

The following scenic route policies within Contra Costa County General Plan 2005-2020 (County of Contra Costa 2010) are applicable to views within the Project area.

- Policy 5-47: Scenic corridors shall be maintained with the intent of protecting attractive natural qualities adjacent to various roads throughout the County.
- Policy 5-49: Scenic views observable from scenic routes shall be conserved enhanced, and protected to the extent feasible.
- Policy 5-55: Provide special protection for natural topographic features, aesthetic views, vistas, hills, and prominent ridgelines at "gateway" sections of scenic routes. Such "gateways" are located at unique transition points in topography or land use, and serve as entrances to regions of the County.

### City of Oakley

Goal No. 6.7 of the City's 2020 General Plan (City of Oakley 2010) seeks to protect and preserve valuable scenic resources and view corridors. Policy No. 6.7.1 encourages the preservation of scenic qualities or the Delta Waterway to the extent feasible.



### 3.1.3 Impact Analysis

#### ***a) Have a substantial adverse effect on a scenic vista?***

**Less than Significant Impact.** No permanent above-ground facilities are proposed. Project activities are limited to temporary construction equipment located within the pipeline removal corridor, equipment laydown areas onshore, temporary pipeline removal equipment (Project vessels) offshore, and the offsite secured storage facilities at the selected contractor's shore base. Although Project equipment and vessels would be visible from recreational areas used by the public both onshore and offshore, as well as from Antioch Bridge - SR 160 (a designated scenic highway), Project impacts would be temporary and localized. The expansive vistas offered along the San Joaquin River Delta would remain available to viewers throughout Project activities. Temporary construction impacts to scenic vistas would be less than significant.

#### ***b) Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway?***

**Less than Significant Impact.** No historic buildings are located within the Project vicinity (refer to Section 3.5, Cultural Resources for detail). No permanent above-ground facilities are proposed. Project activities are limited to temporary construction equipment located onshore within the valve pit and equipment laydown areas at the Lauritzen Yacht Harbor and Sherman Island, as well as offshore within the confines of Project vessels and the pipeline corridor. Although Project equipment and vessels would be visible from the scenic highway Senator John A. Nejedly Bridge (Antioch Bridge - SR 160), impacts would be temporary and localized. Following Project activities within the southern valve pit, laydown areas would be returned to pre-Project conditions. The northern valve pit would be decommissioned in accordance with all applicable rules and regulations including those associated with the Central Valley Flood Protection Board (CVFPB), which requires the walls of the valve pit to be broken down to 5 feet below the existing levee contours and backfilled. The marine navigation safety sign located on the south shoulder of the Sherman Island levee would be removed and the area returned to pre-Project conditions (as would the navigation safety sign located near the Lauritzen Yacht Harbor). Site restoration at the north landing would take place after the Project-related trenches have been backfilled and compacted to grade, and would include reseeding or re-vegetating the disturbed areas. Temporary construction and restoration impacts would be less than significant.

#### ***c) Substantially degrade the existing visual character or quality of the site and its surroundings?***

**No Impact.** No permanent above-ground facilities are proposed. Project activities would be temporary in nature. Following the removal of the majority of the offshore pipelines, valve pit, and navigation hazard signs, no visible offshore facilities would remain. The

1 pipelines would be cut waterward of the two shorelines and the shore segments  
2 abandoned in-place underneath the riverbed. Onshore conditions would return to pre-  
3 Project conditions. At the northern landing at Sherman Island, the onshore valve pit  
4 would be removed and pipelines removed entirely or cemented in place. At the southern  
5 landing area in the Lauritzen Yacht Harbor, the pipelines would be permanently  
6 abandoned in place, but the subterranean valve pit would remain in use housing other  
7 active pipelines. No change in visual character or aesthetic quality to surrounding land  
8 uses is proposed. No impact would occur.

9 ***d) Create a new source of substantial light or glare which would adversely affect***  
10 ***day or nighttime views in the area?***

11 **Less than Significant with Mitigation.** In accordance with Mitigation Measure (MM)  
12 **N-1: Construction Timing**, onshore decommissioning work would be conducted during  
13 daylight hours only (no earlier than 7:30 a.m. and no later than 7:00 p.m.).

14 The offshore work schedule is based on working no more than 6 days per week, one  
15 10-hour shift per day, and no nighttime work is anticipated. With the implementation of  
16 **MM N-1**, impacts due to night glare from vessel lighting and offshore equipment would  
17 be less than significant.

#### 18 **Mitigation Summary**

19 Implementation of the following MMs would reduce the potential for Project-related  
20 impacts to aesthetics to less than significant.

- 21 • MM N-1: Construction Timing.

## 1 3.2 AGRICULTURE AND FOREST RESOURCES

AGRICULTURE AND FOREST RESOURCES <sup>2</sup> - Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Natural Resources Agency, to non-agricultural use?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub. Resources Code, § 4526), or timberland zoned Timberland Production (as defined by Gov. Code, § 51104, subd. (g))?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in the loss of forest land or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 2 3.2.1 Environmental Setting

#### 3 3.2.1.1 City of Oakley/Contra Costa County

4 As indicated in the City's General Plan document (2010), agriculture is a fundamental  
5 component of the community's character. Historically, agriculture has been the primary  
6 economic activity in and around Oakley. At this time, the community is transitioning to a  
7 more urban setting and large-scale agriculture is becoming a less prevalent use.

8 The southern terminus of the Project corridor within the City in Contra Costa County is  
9 located within an area zoned for commercial recreation-aquatic with a commercial

<sup>2</sup> In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the State's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment Project; and the forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board (CARB).

recreation land use designation. Although agriculture is noted as a consistent use with this zoning and land use designation, no agricultural production is currently present within the Project site, as it is used in support of the Lauritzen Yacht Harbor facility.

#### 3.2.1.2 Sacramento County

The northern landing of the Project corridor is located within the levee at Sherman Island in southern Sacramento County. According to the Sacramento County General Plan, Agricultural Element (2011), the Project site is zoned for recreational purposes (REC) from the San Joaquin River to the Sherman Island East Levee Road. The Sherman Island East Levee Road acts as the zoning boundary between the recreational uses and agricultural uses (AG CROP) to the north. This area also serves as the boundary between prime farmlands and those designated of local importance. Project activities would occur on lands under Williamson Act contract (see Figure 3.2-1).

### 3.2.2 Regulatory Setting

#### 3.2.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.2-1.

**Table 3.2-1. Laws, Regulations, and Policies (Agriculture and Forest Resources)**

<b>CA</b>	Williamson Act (Gov. Code, §§ 51200-51207)	This Act enables local governments to enter into contracts with private landowners to restrict specific parcels of land to agricultural or related open space use, and provides landowners with lower property tax assessments in return. Local government planning departments are responsible for the enrollment of land into Williamson Act contracts. Generally, any commercial agricultural use would be permitted within any agricultural preserve. In addition, local governments may identify compatible uses permitted with a use permit.
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#### 3.2.2.2 Local

#### Contra Costa County

The Land Use Element of the Contra Costa County General Plan 2005-2020 (Contra Costa County 2010) contains policies related to agricultural land use. During project review, proposed uses on the edges of land use designations must be evaluated to ensure compatibility with adjacent planned uses.

#### City of Oakley

The City's 2020 General Plan (2010) identifies the following agricultural resource goals and policies applicable to the Project site:

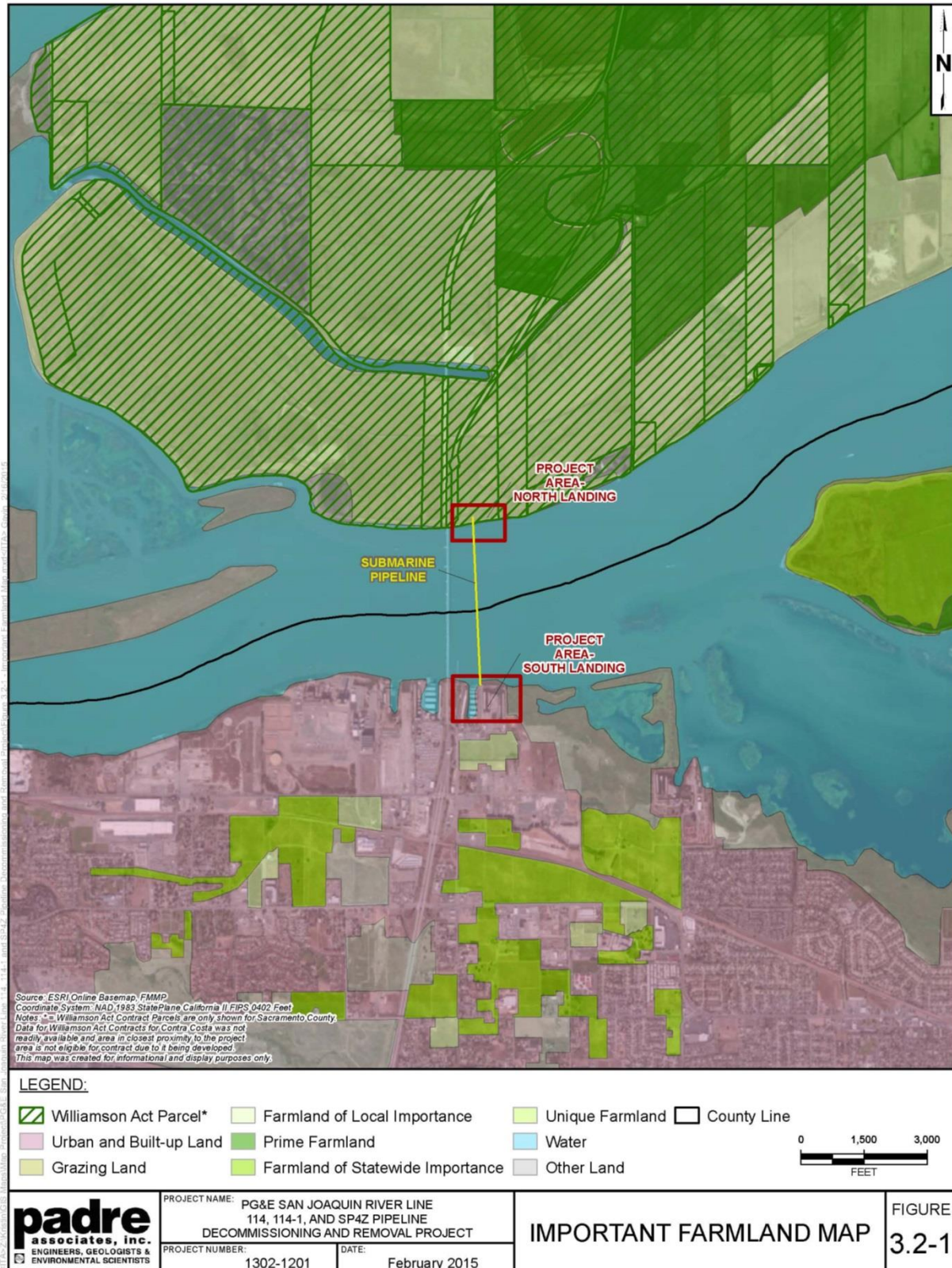


Figure 3.2-1. Important Farmland Map

- Goal 6.1: Allow agriculture to continue as a viable use of land that reflect the community's origins and minimizes conflicts between agricultural and urban uses.
- Policy 6.1.1: Participate in regional programs that promote the long-term viability of agricultural operations within the City.
- Policy 6.1.2: Reduce the negative impacts resulting from urban uses and neighboring agricultural uses in close proximity.
- Policy 6.1.3: Encourage the promotion and marketing of locally grown agricultural products.

## **Sacramento County**

Farmland resource protection is addressed in the Sacramento County General Plan (Agricultural Element 2011) by the policies and programs described below and intended to meet the following objectives.

- Protect prime, statewide importance, unique and local importance farmlands, and lands with intensive agricultural investments from urban encroachment.
- Retain agricultural land holdings in units large enough to guarantee future and continued agricultural use.
- Prime farmland, farmland of statewide importance, unique farmland and farmland of local importance, and farmlands with intensive agricultural investments protected from encroachment by natural resource preserves without compromising biologic diversity and habitat values.
- Protect farmlands from encroachments by recreational facilities and unlawful activities associated with use of recreational facilities.
- Increase in land under Williamson Act contracts and percentage of contract lands with nonrenewal notices stabilized or reduced.
- Reduce or eliminate groundwater cones of depression in farming areas by encouraging water conservation.
- Control wind erosion resulting from soil disturbance.
- No increase in the level or intensity of flooding of intensively farmed land.

The following policy applies to the proposed Project area:

- Policy AG-1: The County shall protect prime, statewide importance, unique and local importance farmlands located outside of the Urban Service Boundary from urban encroachment.

1    **3.2.3 Impact Analysis**

2    **a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide**  
3    **Importance (Farmland), as shown on the maps prepared pursuant to the**  
4    **Farmland Mapping and Monitoring Program of the California Natural Resources**  
5    **Agency, to non-agricultural use?**

6    **b) Conflict with existing zoning for agricultural use, or a Williamson Act contract?**

7    **a) and b) Less than Significant Impact.** The Project is located primarily offshore. As  
8    indicated above, the southern landing of the pipelines is located within an area that is  
9    zoned and used in support of commercial recreation. However, the northern landing is  
10   located within an area partially zoned in support of agricultural use and within a  
11   Williamson Act contract area. As such, preservation of agricultural uses has been  
12   prioritized through Project design. All onshore decommissioning would be limited to  
13   previously disturbed areas and the northern valve box would be fully removed and  
14   backfilled to restore this area to pre-development conditions. Additionally, the pipelines  
15   coming from this area leading southward offshore would be abandoned in place from  
16   the waterside shoulder cut point to the northern submarine cut point (180 feet south of  
17   the shoreline). From this point north, the pipelines would be open cut trenching for full  
18   removal within the levee section, as requested by the CVFPB/Reclamation District (RD)  
19   341. Following short-term onshore construction activities required to decommission and  
20   remove the northern valve box and pipelines, the land use in this area would return to  
21   pre-development conditions and could be used in support of agricultural development  
22   instead. No conflicting land uses would be present. No significant impact to farmlands  
23   would result.

24   **c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined**  
25   **in Pub. Resources Code, § 12220, subd. (g)), timberland (as defined by Pub.**  
26   **Resources Code, § 4526), or timberland zoned Timberland Production (as defined**  
27   **by Gov. Code, § 51104, subd. (g))?**

28   **No Impact.** No forest lands or timberlands are located in the site vicinity; therefore,  
29   there would be no impact.

30   **d) Result in the loss of forest land or conversion of forest land to non-forest use?**

31   **No Impact.** No forest lands or timberlands are located in the site vicinity; therefore,  
32   there would be no impact.

33   **e) Involve other changes in the existing environment which, due to their location**  
34   **or nature, could result in conversion of Farmland, to non-agricultural use or**  
35   **conversion of forest land to non-forest use?**



1 **No Impact.** The Project would not alter the existing environment such that farmland or  
2 forest land would be converted to non-agricultural or non-forest uses.

3 **3.2.4 Mitigation Summary**

4 The Project would not result in significant impacts to agricultural resources; therefore,  
5 no mitigation is required.

### 1 3.3 AIR QUALITY

<b>AIR QUALITY</b> - Where available, the significance criteria established by the applicable air quality management or air pollution control district may be relied upon to make the following determinations. Would the Project:	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Conflict with or obstruct implementation of the applicable air quality plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Expose sensitive receptors to substantial pollutant concentrations?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Create objectionable odors affecting a substantial number of people?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 2 3.3.1 Environmental Setting

##### 3 3.3.1.1 Local Climate and Meteorology

4 Air pollution transport by wind is significant in the Bay Area Air Quality Management  
5 District (BAAQMD). Swept by sea breezes, much of the Bay Area enjoys good air  
6 quality; however, these winds often blow San Francisco Bay Area Air Basin (SFBAAB)  
7 pollution into the Central Valley, and interior valleys, such as Livermore and Santa  
8 Clara, experience ozone standard violations in summer as winds turn south. Bay Area  
9 air pollutants are also transported through the Carquinez Strait into the Sacramento  
10 Valley Air Basin (SVAB) and San Joaquin Valley Air Basin (SJVAB), and through the  
11 Altamont Pass into the SJVAB. This contributes to poor air quality throughout Northern  
12 and interior Central California (CARB 2015).

13 The climate of Contra Costa County varies greatly depending on land elevation and  
14 proximity to the coast. In general, winters are moderately cold with precipitation  
15 generally falling between October and March. Summers tend to be cooler in areas  
16 closer to the bay and warmer in the inland parts of the county. Areas that are closer to  
17 the coast have moderate temperatures year-round with mild, wet, and frostless winters

1 and fog conditions even in the cool summer months. Along the bay shore, the fog and  
2 marine air creates a moderate climate with mild winters and summers. Inland valleys  
3 have less humidity and tend to experience colder winters and hotter summers (Contra  
4 Costa County 2012).

#### 5 3.3.1.2 Criteria Pollutants

6 Criteria air pollutants are those contaminants for which State and Federal ambient air  
7 quality standards have been established for the protection of public health and welfare.  
8 Criteria pollutants include: ozone ( $O_3$ ), carbon monoxide (CO), nitrogen oxides ( $NO_x$ ),  
9 sulfur dioxide ( $SO_2$ ), particulate matter with a diameter of 10 microns ( $\mu$ ) or less ( $PM_{10}$ ),  
10 and particulate matter with a diameter of 2.5  $\mu$  or less ( $PM_{2.5}$ ).

#### 11 **Ozone**

12  $O_3$  is formed in the atmosphere through a series of complex photochemical reactions  
13 involving  $NO_x$ , reactive organic gases (ROG) (also known as ROCs or reactive organic  
14 compounds), and sunlight occurring over several hours. Since  $O_3$  is not emitted directly  
15 into the atmosphere, but is formed as a result of photochemical reactions, it is classified  
16 as a secondary or regional pollutant. Because these  $O_3$ -forming reactions take time,  
17 peak  $O_3$  levels are often found downwind of major source areas.  $O_3$  is considered a  
18 respiratory irritant and prolonged exposure can reduce lung function, aggravate asthma,  
19 and increase susceptibility to respiratory infections. Children and those with existing  
20 respiratory diseases are at greatest risk from exposure to  $O_3$ .

#### 21 **Carbon Monoxide**

22 CO is primarily formed through the incomplete combustion of organic fuels. Higher CO  
23 values are generally measured during winter when dispersion is limited by morning  
24 surface inversions. Seasonal and diurnal variations in meteorological conditions lead to  
25 lower values in summer and in the afternoon. CO is an odorless, colorless gas that  
26 affects red blood cells in the body by binding to hemoglobin and reducing the amount of  
27 oxygen that can be carried to the body's organs and tissues. CO can cause health  
28 effects to those with cardiovascular disease and affect mental alertness and vision.

#### 29 **Nitric Oxide**

30 Nitric oxide (NO) is a colorless gas formed during combustion processes which rapidly  
31 oxidize to form nitrogen dioxide ( $NO_2$ ), a brownish gas. The highest  $NO_2$  values are  
32 generally measured in urbanized areas with heavy traffic. Exposure to  $NO_2$  may  
33 increase the potential for respiratory infections in children and cause difficulty in  
34 breathing even among healthy persons and especially among asthmatics.

## Sulfur Dioxide

SO<sub>2</sub> is a colorless, reactive gas that is produced from the burning of sulfur-containing fuels such as coal and oil, and by other industrial processes. Generally, the highest concentrations of SO<sub>2</sub> are found near large industrial sources. SO<sub>2</sub> is a respiratory irritant that can cause narrowing of the airways, leading to wheezing and shortness of breath. Long-term exposure to SO<sub>2</sub> can cause respiratory illness and aggravate existing cardiovascular disease.

## Particulate Matter

Ambient air quality standards are set for PM<sub>10</sub> and PM<sub>2.5</sub>. Both consist of different types of particles suspended in the air, such as: metal, soot, smoke, dust, and fine mineral particles. Depending on the source of particulates, toxicity and chemical activity can vary. Particulate matter is a health concern because when inhaled it can cause permanent damage to the lungs. The primary source of PM<sub>10</sub> emissions appears to be soil via roads, construction, agriculture, and natural windblown dust. Other sources of PM<sub>10</sub> include sea salt, particulate matter released during combustion processes, such as those in gasoline or diesel vehicles, and wood burning. Fugitive emissions from construction sites, wood stoves, fireplaces and diesel truck exhaust are primary sources of PM<sub>2.5</sub>. Both sizes of particulates can be dangerous when inhaled, however PM<sub>2.5</sub> tends to be more damaging because it remains in the lungs once inhaled.

### 3.3.2 Regulatory Setting

#### 3.3.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.3-1.

**Table 3.3-1. Laws, Regulations, and Policies (Air Quality)**

U.S.	Federal Clean Air Act (FCAA) (42 USC 7401 et seq.)	<p>The FCAA requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS) to protect public health and welfare. National standards are established for ozone (O<sub>3</sub>), carbon monoxide (CO), nitrogen dioxide (NO<sub>2</sub>), sulfur dioxide (SO<sub>2</sub>), particulate matter (PM<sub>10</sub> and PM<sub>2.5</sub>), and lead (Pb). In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO<sub>2</sub>) is an air pollutant as defined under the FCAA, and that the USEPA has authority to regulate GHG emissions. Pursuant to the 1990 FCAA Amendments, USEPA classifies air basins (or portions thereof) as in “attainment” or “nonattainment” for each criteria air pollutant, based on whether or not the NAAQS are achieved. The classification is determined by comparing monitoring data with State and Federal standards.</p> <ul style="list-style-type: none"> <li>• An area is classified as in “attainment” for a pollutant if the pollutant concentration is lower than the standard.</li> <li>• An area is classified as in “nonattainment” for a pollutant if the pollutant concentration exceeds the standard.</li> </ul>
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**Table 3.3-1. Laws, Regulations, and Policies (Air Quality)**

		<ul style="list-style-type: none"> <li>An area is designated “unclassified” for a pollutant if there are not enough data available for comparisons.</li> </ul>
CA	California Clean Air Act of 1988 (CCAA) (Assembly Bill [AB] 2595)	The CCAA requires all air districts in the State to endeavor to achieve and maintain State ambient air quality standards for O <sub>3</sub> , CO, SO <sub>2</sub> , NO <sub>2</sub> , and PM; attainment plans for areas that did not demonstrate attainment of State standards until after 1997 must specify emission reduction strategies and meet milestones to implement emission controls and achieve more healthful air quality. The 1992 CCAA Amendments divide O <sub>3</sub> nonattainment areas into four categories of pollutant levels (moderate, serious, severe, and extreme) to which progressively more stringent requirements apply. State ambient air standards are generally stricter than national standards for the same pollutants; California also has standards for sulfates, hydrogen sulfide (H <sub>2</sub> S), vinyl chloride, and visibility-reducing particles.
CA	Other	<p>Under California’s Diesel Fuel Regulations, diesel fuel used in motor vehicles, except harbor craft, has been limited to 500 parts per million (ppm) sulfur since 1993. The sulfur limit was reduced to 15 ppm beginning September 1, 2006, and harbor craft were included starting in 2009.</p> <p>CARB’s Heavy Duty Diesel Truck Idling Rule (Cal. Code Regs., tit. 13, § 2485) prohibits heavy-duty diesel trucks from idling for longer than 5 minutes at a time (except while queuing, provided the queue is located beyond 100 feet from any homes or schools).</p> <p>The Statewide Portable Equipment Registration Program (PERP) regulates portable engines/engine-driven equipment units. Once registered in the PERP, engines and equipment units may operate throughout California without the need to obtain individual permits from local air districts.</p>

1 Air pollution control is administered on three governmental levels. The U.S.  
2 Environmental Protection Agency (USEPA) has jurisdiction under the Federal Clean Air  
3 Act (FCAA). The California Air Resources Board (CARB) has jurisdiction under the  
4 California Health and Safety Code and California Clean Air Act (CCAA). For the  
5 purposes of this assessment, the Project site is located in both the SFBAAB, within the  
6 jurisdiction of the BAAQMD, and the SVAB, within the jurisdiction of the Sacramento  
7 Metropolitan Air Quality Management District (SMAQMD). The USEPA and CARB  
8 classify an area as attainment, unclassified, or nonattainment, depending on whether or  
9 not the monitored ambient air quality data show compliance, insufficient data are  
10 available, or non-compliance with the ambient air quality standards, respectively.

## 11 Air Quality Standards

12 Air quality standards are specific concentrations of pollutants that are used as  
13 thresholds to protect public health and the public welfare. The USEPA has developed  
14 two sets of standards; one to provide an adequate margin of safety to protect human  
15 health, and the second to protect the public welfare from any known or anticipated  
16 adverse effects. At this time, SO<sub>2</sub> is the only pollutant for which the two standards differ.  
17 The CARB has developed air quality standards for California, which are generally lower  
18 in concentration than Federal standards. California standards exist for O<sub>3</sub>, CO,  
19 suspended PM<sub>10</sub>, visibility, sulfates, lead, hydrogen sulfide, and vinyl chloride. The  
20 Federal O<sub>3</sub> standard is based on an 8-hour averaging period (vs. 1-hour), recognizing

- 1 that prolonged exposure is more damaging. The Federal PM standard is based on finer  
 2 2.5  $\mu$  and smaller particles (vs. 10  $\mu$  and smaller), recognizing that finer particles may  
 3 have a higher residence time in the lungs and cause greater respiratory illness. Table  
 4 3.3-2 lists applicable ambient air quality standards at the Project site.

**Table 3.3-2. Ambient Air Quality Standards (State and Federal)**

Pollutant		Averaging Time	California Standard	Federal Standard
Ozone (O <sub>3</sub> )		1-Hour	0.09 ppm	--
		8-Hour	0.070 ppm	0.075 ppm
Carbon Monoxide (CO)		8-Hour	9.0 ppm	9 ppm
		1-Hour	20 ppm	35 ppm
Nitrogen Dioxide (NO <sub>2</sub> )		Annual Arithmetic Mean	0.030 ppm	0.053 ppm
		1-Hour	0.18 ppm	--
Sulfur Dioxide (SO <sub>2</sub> )		Annual Arithmetic Mean	--	0.030 ppm
		24-Hour	0.04 ppm	0.14 ppm
		3-Hour	--	0.5 ppm (secondary)
		1-Hour	0.25 ppm	--
Respirable Particulate Matter	PM <sub>10</sub>	Annual Geometric Mean	20 µg/m <sup>3</sup>	--
		24-Hour	50 µg/m <sup>3</sup>	150 µg/m <sup>3</sup>
Fine Particulate Matter	PM <sub>2.5</sub>	Annual Geometric Mean	12 µg/m <sup>3</sup>	15.0 µg/m <sup>3</sup>
		24-Hour	--	35 µg/m <sup>3</sup>
Hydrogen Sulfide (H <sub>2</sub> S)		1-Hour	0.03 ppm	--
Vinyl Chloride		24 Hour	0.01 ppm	--
Sulfates		24 Hour	25 µg/m <sup>3</sup>	--
Lead		--	30 day average: 25 µg/m <sup>3</sup>	Rolling 3-month Average: 0.15 µg/m <sup>3</sup> Calendar quarter: 1.5 µg/m <sup>3</sup>
Visibility Reducing Particles		8-Hour	Extinction coefficient of 0.23 per km - visibility of ten mile or more due to particles when relative humidity is less than 70 percent.	--

Source: CARB 2013

## 5 Air Toxic Health Risks

- 6 Combustion of diesel fuel in internal combustion engines produces exhaust containing  
 7 several compounds identified as hazardous air pollutants by the USEPA and as toxic air  
 8 contaminants (TACs) by the CARB. Particulate matter from diesel exhaust has recently  
 9 been identified as a TAC. In 2000, the CARB developed a Risk Reduction Plan (CARB  
 10 2000) to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles  
 11 to establish new emission standards, certification programs, and engine retrofit

1 programs to control exhaust emissions from diesel engines and vehicles. The CARB  
2 has also passed fuel standards that would enable diesel engines to incorporate new  
3 advanced technologies to meet dramatically lower emission levels. The new sulfur  
4 standard was phased in starting in June 2006, and aligns California diesel fuel sulfur  
5 standards with Federal diesel sulfur standards, which require a sulfur limit of 15 parts  
6 per million (ppm). California's rule would apply to fuel sold for both on-road and off-road  
7 vehicles (excluding locomotives and marine vessels).

#### 8 3.3.2.2 Local

9 The Project is located within both Sacramento and Contra Costa Counties, as well as  
10 within the City. Local policies within these three jurisdictions pertaining to air quality are  
11 included below.

#### 12 **Sacramento County**

13 Within the Sacramento County General Plan - Air Quality Element (2011) the following  
14 policies may be implemented as appropriate:

- 15 • Policy AQ-11: Encourage contractors operating in the county to procure and to  
16 operate low-emission vehicles, and to seek low emission fleet status for their off-  
17 road equipment.
- 18 • Policy AQ-16: Prohibit the idling of on-and off-road engines when the vehicle is  
19 not moving or when the off-road equipment is not performing work for a period of  
20 time greater than five minutes in any one hour period.
- 21 • Policy AQ-21: Support SMAQMD's particulate matter control measures for  
22 residential wood burning and fugitive dust.

#### 23 **Contra Costa County**

24 The Conservation Element of the Contra Costa County General Plan 2005-2020  
25 (Contra Costa County 2010) includes goals and policies that aim to improve local and  
26 regional air quality throughout the County. The following air resources policies may be  
27 applicable to the Project:

- 28 • Policy 8-103: When there is a finding that a proposed project might significantly  
29 affect air quality, appropriate mitigation measures shall be imposed.
- 30 • Policy 8-104: Proposed projects shall be reviewed for their potential to generate  
31 hazardous air pollutants.



**City of Oakley**

The City's 2020 General Plan identifies the following air quality goals and policies that may be applicable to the Project site:

- Goal 6.2: Maintain or improve air quality in the City of Oakley.
- Policy 6.2.1: Support the principles of reducing air pollutants through land use, transportation, and energy use planning.

**AQMDs**

Local AQMDs share responsibility with the CARB for ensuring that all ambient air quality standards are attained within their respective counties. The AQMDs have jurisdiction under the California Health and Safety Code to develop emission standards (rules) within their respective counties and/or air basins, issue air pollution permits, and require emission controls for stationary sources in their district. The AQMDs are also responsible for the attainment of air quality standards in their district. The USEPA and CARB classify an air basin as attainment, unclassified, or nonattainment, depending on the results of the monitored ambient air quality. The Project site is located in both the SFBAAB and the SVAB, overseen respectively by the BAAQMD and the SMAQMD.

Sacramento County (within the SVAB) and Contra Costa County (within the SFBAAB) are designated as nonattainment for the Federal and State O<sub>3</sub> standards and the State PM<sub>10</sub> standard. Contra Costa County is also designated as nonattainment for the State PM<sub>2.5</sub> standard.

Both the BAAQMD and SMAQMD have provided guidance for evaluating potential air quality impacts of projects. These guidance documents are developed so that projects do not exceed any threshold of significance in the guidance, and thereby would be in conformity with the BAAQMD and SMAQMD. The FCAA and the CCAA require plans to be developed for areas designated as nonattainment (with the exception of areas designated as nonattainment for the State PM<sub>10</sub> standard). As such, the BAAQMD adopted the 2010 Bay Area Clean Air Plan, which replaced the previous Bay Area 2005 Ozone Strategy. The BAAQMD's 2010 adopted thresholds were challenged in a lawsuit. As a result, the court's order permits the BAAQMD to develop and disseminate these CEQA Guidelines, as long as they do not implement the thresholds of significance. The SMAQMD prepared and submitted the 1991 Air Quality Attainment Plan (AQAP) to mainly address Sacramento County's nonattainment status for ozone (O<sub>3</sub>) and CO, and although not required, PM<sub>10</sub>.

Table 3.3-3 identifies air quality thresholds as applicable to the Project based on the BAAQMD's *CEQA Air Quality Guidelines* (BAAQMD, 2012).

**Table 3.3-3 Criteria Air Pollutants Significance Thresholds**

Pollutant	Construction Thresholds	Operational Thresholds	
	Average Daily Emissions (pounds/day)	Average Daily Emissions (pounds/day)	Maximum Annual Emissions (tons/year)
ROG	54	54	10
NO <sub>x</sub>	54	54	10
PM <sub>10</sub>	82 (exhaust)	82	15
PM <sub>2.5</sub>	54 (exhaust)	54	10
Fugitive Dust	Construction Dust Ordinance or other Best Management Practices	Not Applicable	
Notes:			
ROG = reactive organic gases			
NO <sub>x</sub> = oxides of nitrogen			
PM <sub>10</sub> = particulate matter with aerodynamic diameter less than 10 microns			
PM <sub>2.5</sub> = particulate matter with aerodynamic diameter less than 2.5 microns			
Source: BAAQMD CEQA Air Quality Guidelines, 2012			

### 3.3.3 Impact Analysis

#### ***a) Conflict with or obstruct implementation of the applicable air quality plan?***

**No Impact.** The development of the Bay Area 2010 Clean Air Plan relied on projections of population and employment forecasts made by the Association of Bay Area Governments (ABAG) to inform the control strategies for attaining Federal and State air quality standards. The ABAG projections were in turn based on land use projections made by local jurisdictions (e.g., the General Plan process of cities and counties within the region). Conflicts with the air quality plan would arise if the Project's activities caused those projections to be exceeded by creating a substantial increase in employment or population. Large population or employment increases could affect transportation control strategies, which are among the most important in the air quality plan, since transportation is a major contributor to PM<sub>2.5</sub>, PM<sub>10</sub>, and O<sub>3</sub> for which the air basin is not in attainment. Because the Project does not propose activities that would change population or employment levels within the air basin, the Project would not conflict or obstruct implementation of the applicable air quality plan. The Project would implement measures to control air emissions as described in the following sections.

#### ***b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation?***

**Less than Significant with Mitigation.** Project activities that would emit air pollutants include use of onshore heavy equipment, semi-trailer end dump trucks, cement trucks, marine vessels, equipment to remove the pipelines and north landing valve pit, and

vehicles to transport people and materials to and from the site, place backfill, and restore the site. However, construction activities would be of short duration, lasting a few days to a few weeks during each decommissioning phase. The Project would not create a new permanent stationary or non-stationary source of air emissions as defined by BAAQMD guidelines. As such, the Project is not subject to the thresholds of significance that apply to operational impacts created by new permanent sources, and is, therefore, evaluated in the context of construction-related impacts.

Table 3.3-4 shows the project emissions, calculated using California Emissions Estimator Model (CalEEMod) air emissions software and Emfac2007 V2.3 (see Appendix B for a copy of the Air Quality Spreadsheets supporting this analysis).

**Table 3.3-4. Estimated Criteria Pollutant by Phase - Total Project Emission**

<b>EMISSIONS SUMMARY</b>		<b>ROG</b>	<b>NO<sub>x</sub></b>	<b>PM<sub>10</sub></b>	<b>PM<sub>2.5</sub></b>
<b>Pre-Survey</b>	Pounds/Day	0.50	12.63	0.55	0.52
	Total Pounds/ Phase	0.50	12.63	0.55	0.52
<b>North Landing</b>	Pounds/Day	4.31	22.26	1.38	1.31
	Total Pounds/ Phase	31.76	146.79	8.49	8.07
<b>South Landing</b>	Pounds/Day	0.96	8.92	0.28	0.27
	Total Pounds/ Phase	6.63	62.33	1.80	1.71
<b>River Crossing Decommissioning</b>	Pounds/Day	7.04	83.48	3.61	3.43
	Total Pounds/ Phase	215.58	2,494.00	107.71	102.33
<b>Post-Survey</b>	Pounds/Day	0.50	12.63	0.55	0.52
	Total Pounds/ Phase	0.50	12.63	0.55	0.52
<b>Total Construction</b>	<b>Pounds/Project</b>	<b>254.98</b>	<b>2,728.38</b>	<b>119.11</b>	<b>113.15</b>
<b>Average Daily Construction Emissions (lbs./day): 60 days</b>					
<b>Average Total Construction</b>		4.25	45.47	1.99	1.89
<b>Worst Case Day</b>		7.04	83.48	3.61	3.43
<b>BAAQMD Daily Threshold</b>		<b>54</b>	<b>54</b>	<b>82</b>	<b>54</b>
<b>Exceeds Threshold Over Average Construction Days</b>		<b>No</b>	<b>No</b>	<b>No</b>	<b>No</b>
<b>Exceeds Worst Case Day</b>		<b>No</b>	<b>Yes</b>	<b>No</b>	<b>No</b>
<b>Source:</b> Emission estimates based on project construction phasing, equipment use, debris transport and worker commute provided in the Project Execution Plan. Construction equipment pollutant emission rates provided by CARB's OFFROAD model as included in the CalEEMod emission model; CARB's <i>Emissions Estimation Methodology for Commercial Harbor Craft Operating in California</i> (2007); and motor vehicle pollutant emission rates provided by CARB's EMFAC2007 V2.3 model.					

As shown in Table 3.3-4, although the Project would exceed the BAAQMD threshold for a worst-case day for NO<sub>x</sub>; the proposed activities would not exceed thresholds based on an average of 60 days for the Project duration. As such, the Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Additionally, **MM AQ-1: Air Pollutant Control Measures** would require the use of marine vessels and equipment with Tier II air quality requirements (or better) and other measures to reduce impacts due to Project emissions to less than significant.

1       **MM AQ-1: Air Pollutant Control Measures.** Pacific Gas and Electric shall include  
2       emission reduction measures in the Project plans and specifications that  
3       reduce the emission of criteria air pollutants. These shall include:

- 4       • Harborcraft such as derricks, barges and tug boats shall meet the most  
5       stringent U.S. Environmental Protection Agency emission standards in  
6       place at the time of bid (Tier II for marine engines and non-road engines  
7       over 750 horsepower (hp), Tier III for all other engines);
- 8       • Portable equipment with engines 50 hp and over shall be permitted  
9       through the California Air Resources Board's Portable Equipment  
10      Registration Program;
- 11      • Diesel oxidation catalysts and/or catalyzed diesel particulate traps shall be  
12      used;
- 13      • High-pressure fuel injectors on diesel-powered equipment shall be used;  
14      and
- 15      • Equipment shall be maintained according to manufacturer specifications.

16      BAAQMD (2012) recommends that a project implement certain basic construction  
17      control measures for sites of less than 4 acres and sites that are not expected to be  
18      particularly dusty or located near sensitive receptors - to the extent applicable and  
19      needed. The onshore work areas include the northern and southern landing work sites.  
20      The north landing work site includes the area on and behind the Sherman Island levee,  
21      centered on the subject pipeline alignments with an overall disturbed area of  
22      approximately 12,200 square feet or 0.28 acre. With the exception of the marine safety  
23      sign removal on the south shoreline, there is no disturbed area at the southern site  
24      because no excavation would be required. The disturbed area created by the marine  
25      safety sign removal will be minimal, approximately 27 square feet. Due to the limited  
26      amount of anticipated disturbance area and the low propensity for dust, the Project was  
27      evaluated under the BAAQMD control measures for applicability.

28      Most basic measures recommended by the BAAQMD are unlikely to be needed, such  
29      as applying water to construction areas or sweeping public streets, given the nature of  
30      the work, its location on the river, and the small size of the work area subject to ground  
31      disturbance. However, **MM AQ-2: Dust Control Measures** is provided to further reduce  
32      potential impacts to air quality.

33      **MM AQ-2: Dust Control Measures.** Pacific Gas and Electric shall implement the  
34      Bay Area Air Quality Management District's "basic measures" for dust control  
35      at construction sites, as needed, during soil excavation. The basic measures  
36      would include the following:

- 37      • Water all active construction areas at least twice daily.
- 38      • Cover all trucks hauling soil, sand, and other loose materials or require all  
39      trucks to maintain at least 2 feet of freeboard.

- Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.
- Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.
- Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.
- Construction equipment (e.g., excavator) shall be inspected before leaving the site to ensure that soil is not adhering to tires or other vehicle parts. Vehicles shall be brushed to remove loose dirt, as necessary. Manual sweeping and housekeeping shall be performed as needed to keep dirt off of roadways.

Based on the results presented in Table 3.3-4 and with implementation of the air pollutant control measures and BAAQMD's applicable basic dust control measures (**MM AQ-1 and MM AQ-2**) the Project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation.

***c) Result in a cumulatively considerable net increase of any criteria pollutant for which the Project region is non-attainment under an applicable Federal or State ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)?***

**Less than Significant with Mitigation.** The SFBAAB, within which the Project is located, is not in attainment for PM<sub>2.5</sub> and PM<sub>10</sub> or O<sub>3</sub> under California's air quality standards. Although there would be emissions of these pollutants from vehicles and equipment during construction, the emissions would be temporary, of short duration, and small in quantity given the small numbers of vehicles and construction equipment needed to complete the work. In addition, Project emissions of particulate matter would be reduced by **MM AQ-1** and **MM AQ-2**. The Project would not generate long-term emissions of particulate matter or O<sub>3</sub> and would not cause a cumulatively considerable increase of particulate matter or O<sub>3</sub>.

***d) Expose sensitive receptors to substantial pollutant concentrations?***

**Less than Significant with Mitigation.** The primary work area at the south landing is approximately 0.25 mile from the residence within Lauritzen Yacht Harbor (the nearest sensitive receptor). A residential neighborhood is located approximately 1 mile to the southeast. No schools, hospitals or day care centers are located within 1 mile of the Project site.

A small number of vehicles and equipment would be used at the south landing in order to plug the three pipelines by pumping approximately 35.3 cubic yards (cy) of cement

slurry into each of the three south landing's waterside terrestrial and shoreline segments. Emissions from the vehicles and equipment would be of short duration and occur more than 0.25 mile from the nearest school, hospital or neighborhood in which a substantial number of people reside. The onshore portion of the work described would occur within 0.25 mile of the residences at the Lauritzen Yacht Harbor. With the implementation of **MM AQ-2**, and because emissions of dust or vehicle exhaust fumes associated with the work proposed at the south landing would be of short-term duration, the Project would not expose sensitive receptors to substantial pollutant concentrations. A less than significant impact would result.

***e) Create objectionable odors affecting a substantial number of people?***

**Less than Significant Impact.** Project construction equipment would generate odors from the combustion of fuels. However, the presence of an impact from Project odors is dependent on a number of variables including:

- Nature of the odor source;
- Frequency of odor generation (e.g., daily, seasonal, activity-specific);
- Intensity of the odor (e.g., concentration);
- Distance of the odor source to sensitive receptors (e.g., miles);
- Wind direction (e.g., upwind or downwind); and
- Sensitivity of the receptor.

Onshore Project activities would primarily take place in open areas. Impacts associated with onshore emission odors would be temporary, lasting only as long as necessary to complete Project activities. Due to the temporary nature of Project activities, as well as the location away from public areas, onshore impacts would be less than significant.

The majority of Project equipment would be located offshore within open deck spaces of Project vessels and away from sensitive receptors and public areas. Odors associated with offshore equipment and vessels would be minor, and limited to the immediate Project area. It is anticipated that odors would dissipate rapidly in the open air. Impacts associated with offshore impacts would also be less than significant.

**3.3.4 Mitigation Summary**

Implementation of the following mitigation measures would reduce the potential for Project-related impacts to air quality to less than significant levels.

- MM AQ-1: Air Pollutant Control Measures.
- MM AQ-2: Dust Control Measures.



## 1 3.4 BIOLOGICAL RESOURCES

<b>BIOLOGICAL RESOURCES - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 2 3.4.1 Environmental Setting

#### 3 3.4.1.1 Regional Setting

4 The area where the three submarine pipelines cross under the San Joaquin River is  
 5 located within the Delta subsection of the Great Valley Ecological Region of California at  
 6 the confluence of the Sacramento and San Joaquin Rivers. Except for the levees  
 7 present on the San Joaquin and Sacramento Rivers, the subsection is a nearly level  
 8 plain at just about sea level.

1 3.4.1.2 Site-Specific Setting

2 **Habitat Types**

3 A preliminary site visit was conducted by Padre Associates on January 15, 2015. The  
 4 Project occurs within the lower reach of the San Joaquin River immediately upstream  
 5 from the Antioch (Senator John A. Nejedly) Bridge on SR 160 approximately 7.7 miles  
 6 upstream from its confluence with the Sacramento River. The Project area is comprised  
 7 of five habitat types, annual grassland, disturbed land, emergent wetland (marsh), open  
 8 water, and ruderal land. Table 3.4-1 shows the total area of each habitat type within the  
 9 Project area. Table 3.4-2 provides a list of wildlife species observed in January 2015  
 10 within the Project area. Table 3.4-3 is a compiled list of special-status species that have  
 11 been reported within approximately 5 miles of the Project site. Most of the Project is  
 12 within open water, but terrestrial segments occur along the south and north landings of  
 13 the pipeline, as shown in Figures 3.4-1A and 3.4-1B.

**Table 3.4-1. Habitat Types and Acreage  
Within the Total Project Area**

Cover Type	Cover Type Code	Area (Square Feet)	Acreage
Emergent Wetland (Marsh)	EMW	7,744	0.18
Ruderal	RD	10,839	0.25
Annual Grassland	AG	12,096	0.28
Disturbed Land	DS	20,582	0.47
Open Water	OW	374,106	8.58

**Table 3.4-2 Wildlife Species Observed at the Project Site**

Family/Common Name	Scientific Name	Protected Status <sup>1</sup>	Source <sup>2</sup>
<b>BIRDS</b>			
<b>Ducks, Geese, and Swans (Anatidae)</b>			
Greater White-fronted Goose	<i>Anser albifrons</i>	M	--
Snow Goose	<i>Chen caerulescens</i>	M	--
Canada Goose	<i>Branta canadensis</i>	M	2
Mallard	<i>Anas platyrhynchos</i>	M	2
<b>New World Quail (Odontophoridae)</b>			
California Quail	<i>Callipepla californica</i>	M	--
<b>Phalacrocoracidae (Cormorants)</b>			
Double-crested cormorant	<i>Phalacrocorax auritus</i>	M,FGWL	--
<b>Bitterns, Herons, and Allies (Ardeidae)</b>			
Snowy Egret	<i>Egretta thula</i>	M	--
Great Egret	<i>Ardea alba</i>	--	--
Great Blue Heron	<i>Ardea herodias</i>	M	1
Green Heron	<i>Butorides striatus</i>	M	
<b>New World Vultures (Cathartidae)</b>			

Table 3.4-2 Wildlife Species Observed at the Project Site

Family/Common Name	Scientific Name	Protected Status <sup>1</sup>	Source <sup>2</sup>
Turkey Vulture	<i>Cathartes aura</i>	M	2
<b>Hawks, Kites, Eagles (Accipitridae)</b>			
Red-tailed Hawk	<i>Buteo jamaicensis</i>	M	1,2
<b>Rails, Gallinules, and Coots (Rallidae)</b>			
American Coot	<i>Fulica americana</i>	M	2
<b>Lapwings and Plovers (Charadriidae)</b>			
Killdeer	<i>Charadrius vociferus</i>	M	1,2
<b>Stilts and Avocets (Recurvirostridae)</b>			
Black-necked Stilt	<i>Himantopus mexicanus</i>	M	--
<b>Sandpipers, Phalaropes, and Allies (Scolopacidae)</b>			
Greater Yellowlegs	<i>Tringa melanoleuca</i>	M	--
<b>Pigeons and Doves (Columbidae)</b>			
Mourning Dove	<i>Zenaida macroura</i>	M	2
<b>Tyrant Flycatchers (Tyrannidae)</b>			
Black Phoebe	<i>Sayornis nigricans</i>	M	2
Western Kingbird	<i>Tyrannus verticalis</i>	M	2
<b>Jays and Crows (Corvidae)</b>			
American Crow	<i>Corvus brachyrhynchos</i>	M	2
<b>Swallows (Hirundinidae)</b>			
Cliff Swallow	<i>Petrochelidon pyrrhonota</i>	M	--
Cave Swallow	<i>Petrochelidon fulva</i>	M	--
<b>Mockingbirds and Thrashers (Mimidae)</b>			
Northern Mockingbird	<i>Mimus polyglottos</i>	M	2
<b>Starlings (Sturnidae)</b>			
European Starling	<i>Sturnus vulgaris</i>	--	2
<b>Emberizids (Emberizidae)</b>			
Song Sparrow	<i>Melospiza melodia</i>	M	--
White-crowned Sparrow	<i>Zonotrichia leucophrys</i>	M	2
Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>	M	2
<b>Blackbirds (Icteridae)</b>			
Red-winged Blackbird	<i>Agelaius phoeniceus</i>	M	2
Western Meadowlark	<i>Sturnella neglecta</i>	M	1,2
Brewer's Blackbird	<i>Euphagus cyanocephalus</i>	M	1,2
<b>Fringilline and Cardueline Finches and Allies (Fringillidae)</b>			
House Finch	<i>Haemorhous mexicanus</i>	M	1,2
Lesser Goldfinch	<i>Spinus psaltria</i>	M	2

**Protected Status<sup>1</sup>**

M = Migratory Bird Treaty Act (MBTA)

FE = Federally Endangered

FT = Federally Threatened

SE = California State Endangered

ST = California State Threatened

CSC = California Species of Special Concern

FP = California Fully Protected Species

BCC = USFWS Birds of Conservation Concern

WL = CDFW Watch List

Note: Surveys were conducted during January.

**Table 3.4-3. Potential Special-Status Species within the Project Area**

Species*	Status <sup>1</sup>	Habitat	Distance to Nearest Reported Occurrence (Occ.)	Likelihood of Occurrence
<b>Plants</b>				
<i>Blepharizonia plumosa</i> Big tarplant	1B	Valley and foothill grassland. Blooms from July to October at 100 to 1,650 feet mean sea level.	Occ. # 56 is approximately 5 miles southwest of southern end of Project site.	Absent. Project site lacks suitable habitat.
<i>California macrophylla</i> Round-leaved filaree	1B	Cismontane woodland, valley/foothill grassland. 50 to 4,000 feet mean sea level.	Occ. # 95 is approximately 6 miles southwest of southern end of Project site.	Absent. Project site lacks suitable habitat.
<i>Cicuta maculata</i> var. <i>bolanderi</i> Bolander's water hemlock	2B	Freshwater or brackish marshes and swamps. 0 to 600 feet mean sea level.	Occ. # 15 is approximately 1 mile southeast of the southern end of Project site.	Moderate. Species could occur along river and adjacent to Project or within wetlands north of Project site.
<i>Chloropyron molle</i> ssp. <i>molle</i> Soft bird's-beak	FE	Found in coastal salt marshes and swamps. 0 to 10 feet mean sea level.	The buffer of Occ. # 18 from 1993 is located near the northern end of Project site.	Moderate. Species could occur within wetlands north of Project site.
<i>Cryptantha hooveri</i> Hoover's cryptantha	1A	Valley and foothill grassland in coarse sand. 3 to 500 feet mean sea level.	Occ. # 4 was reported approximately 2 miles southwest of southern end of Project site.	Absent. Project site lacks suitable habitat.
<i>Eriogonum nudum</i> var. <i>psychicola</i> Antioch Dunes buckwheat	1B	Found in inland dune habitat (Antioch Dunes). 0 to 60 feet mean sea level.	Occ. # 1 is approximately 2.8 miles west of Project site.	Absent. Project site lacks suitable habitat.
<i>Eriogonum truncatum</i> Mt. Diablo buckwheat	1B	Found in chaparral, valley grassland, and coastal scrub communities in Contra Costa County. 900 to 1,800 feet mean sea level.	There is one historical occurrence (Occ. # 4) from more than 100 years ago located approximate 2.5 miles southeast of the southern end of Project site.	Absent. Project site lacks suitable habitat.
<i>Erysimum capitatum</i> ssp. <i>angustatum</i> Contra Costa wallflower	FE, SE	Found in inland dune habitat. 10 to 60 feet mean sea level.	Occ. # 4 is approximately 4 miles west of Project site.	Absent. Project lacks suitable habitat.
<i>Eschscholzia rhombipetala</i> Diamond-petaled California poppy	1B	Found in valley and foothill grassland habitat (alkaline clay). 0 to 3,000 feet mean sea level.	There is one historical occurrence from over 100 years ago approximately 5 miles from Project site.	Absent. Project site lacks suitable habitat.

Table 3.4-3. Potential Special-Status Species within the Project Area

Species*	Status <sup>1</sup>	Habitat	Distance to Nearest Reported Occurrence (Occ.)	Likelihood of Occurrence
<i>Hesperolinon breweri</i> Brewer's western flax	1B	Found in chaparral, cismontane woodland, and valley and foothill grassland habitats. 100 to 3,000 feet mean sea level.	Occ. # 32 is approximately 4.5 miles south of the southern end of Project site.	Absent. Project site lacks suitable habitat.
<i>Hibiscus lasiocarpus</i> var. <i>occidentalis</i> Woolly rose mallow	1B	Riprap on sides of levees and within marshes and swamps at 0-400 feet mean sea level. Blooms from June through September.	Occ. # 105 is approximately 4.5 miles west of Project site.	Moderate. Species could occur along river, in riprap on shoreline, and adjacent to Project or within wetlands north of Project site.
<i>Lasthenia conjugens</i> Contra Costa goldfield	FE	Cismontane woodlands, alkali playatas, valley and foothill grasslands, and vernal pool habitats. Blooms Mar through June. 0 to 1,500 feet mean sea level.	Occ. # 34 is approximately 16 miles northwest of the northern end of Project site.	Absent. Project site lacks suitable habitat.
<i>Lathyrus jepsonii</i> var. <i>jepsonii</i> Delta tule pea	1B	Marshes and swamps (freshwater and brackish). Blooms from May-July at 0-15 feet mean sea level.	Occ. # 163 is approximately 500 feet east of the southern end of the Project.	Moderate. Species could occur along river and adjacent to Project or within wetlands north of Project site.
<i>Lilaeopsis masonii</i> Mason's lilaeopsis	SR, 1B	Marshes and swamps (brackish or freshwater). Blooms from April-November at 0-30 feet mean sea level.	Occ. # 218 is approximately 400 feet west of the southern end of the Project. A separate occurrence (Occ. # 8) has a buffer within the northern end of the Project.	Moderate. Species could occur along river and adjacent to Project or within wetlands north of Project site.
<i>Limosella australis</i> Delta mudwort	2B	Mud banks, freshwater and brackish marsh, and riparian scrub. Blooms May through August. 0 to 10 feet mean sea level.	Occ. # 63 is approximately 500 feet east of the southern end of the Project.	Moderate. Species could occur along river and adjacent to Project or within wetlands north of project site.
<i>Madia radiata</i> Showy golden madia	1B	Cismontane woodlands, valley and foothill grasslands. Blooms March through May. 75 to 7,000 feet mean sea level.	There is one historical occurrence from over 75 years ago approximately 7 miles south of Project site.	Absent. Project lacks suitable habitat.

**Table 3.4-3. Potential Special-Status Species within the Project Area**

Species*	Status <sup>1</sup>	Habitat	Distance to Nearest Reported Occurrence (Occ.)	Likelihood of Occurrence
<i>Oenothera deltoids</i> ssp. <i>howellii</i> Antioch Dunes evening-primrose	FE, SE, 1B	Riverine sand dunes. Blooms March through September. 0 to 100 feet mean sea level.	Occ. # 10 is less than 1 mile west of the southern end of Project site.	Absent. Project site and lacks suitable habitat.
<i>Scutellaria lateriflora</i> Side-flowering skullcap	2B	Mesic meadows and seeps and freshwater marshes. Blooms July through September. 0 to 1,500 feet mean sea level.	Occ. # 14 is approximately 15 miles northeast of the northern end of Project site.	Absent. Project site lacks suitable habitat.
<i>Symphotrichum lentum</i> Suisun Marsh aster	1B	Marshes and swamps (brackish and freshwater). Blooms from May-November at 0-10 feet mean sea level.	Occ. # 168 is approximately 400 feet west of the southern end of the Project. A separate occurrence (Occ. # 34) has a buffer within the northern end of Project site.	Moderate. Species could occur along river and adjacent to Project or within wetlands north of project site.
<b>Invertebrates</b>				
<i>Apodemia mormo langei</i> Lange's metalmark butterfly	FE	The species is currently found only at the Antioch Dunes in Contra Costa County. It has a very close relationship with naked stemmed buckwheat ( <i>Eriogonum nudum</i> ) on which its eggs are deposited. The buckwheat is also an important nectar source for adults.	The whole Antioch north quadrangle, which is approximately 500 feet to the west, is listed as Occ. # 1.	Absent. Project site lacks suitable habitat.
<i>Desmocerus californicus dimorphus</i> Valley elderberry longhorn beetle	FT	Occurrences of the Valley elderberry longhorn beetle are primarily in the vicinity of moist valley oak woodlands associated with riparian corridors in the lower Sacramento River and upper San Joaquin River drainages (U.S. Fish and Wildlife Service 1984). Elderberry plants are obligate hosts for the Valley elderberry longhorn beetle, providing a source of food and broodwood.	Occ. # 158 is approximately 22 miles southeast of the southern end of Project site.	Absent. Project site lacks suitable habitat.
<b>Fish</b>				
<i>Archoplites interruptus</i> Sacramento perch	CSC	Most often found in warm reservoirs and ponds. Capable of surviving high temperatures, high salinities, high	Occurrence # 3 is within the waters located adjacent to Project site.	High. Species could occur in San Joaquin River near Project site.



Table 3.4-3. Potential Special-Status Species within the Project Area

Species*	Status <sup>1</sup>	Habitat	Distance to Nearest Reported Occurrence (Occ.)	Likelihood of Occurrence
		turbidity, and low water clarity. Often found in clear water among beds of aquatic vegetation, they achieve greater numbers.		
<i>Pogonichthys macrolepidotus</i> Sacramento splittail	CSC	Occurs in lakes and rivers of the Central Valley and is capable of tolerating moderate levels of salinity. Commonly occur in brackish waters of Suisun Bay, Suisun Marsh and the Sacramento-San Joaquin Delta.	This species is known to occur within Project waters.	High. Species could occur in San Joaquin River near Project site.
<i>Acipenser medirostris</i> Green sturgeon	FT	Anadromous fish species. Juveniles have been collected in the San Francisco Bay up to the lower reaches of the Sacramento and San Joaquin rivers. Spawning locations and seasons of this species are not known.	This species is known to occur within Project waters.	High. Species could occur in San Joaquin River near Project site.
<i>Hypomesus transpacificus</i> Delta smelt	FT, SE	Endemic to the upper Sacramento/San Joaquin Delta, it mainly inhabits the freshwater-saltwater mixing zone of the estuary, except during its spawning season, when it moves into freshwater during the early spring months from March until May.	This species is known to occur within Project waters.	High. Species could occur in San Joaquin River near Project site.
<i>Spirinchus thaleichthys</i> Longfin smelt	FC, ST	Endemic to Sacramento/San Joaquin Delta. Feed on zooplankton. Tolerate a wide range of salinity conditions, and are most abundant in Suisun and San Pablo Bays, but are also found in south San Francisco Bay and the open ocean.	This species is known to occur within Project waters.	High. Species could occur in San Joaquin River near Project site.
<i>Oncorhynchus mykiss</i> Central Valley steelhead	FT	Sacramento and San Joaquin River systems, Sacramento-San Joaquin Delta, and San Francisco Bay.	This species is known to occur within Project waters.	High. Species could occur in San Joaquin River near Project site.
<i>Oncorhynchus tshawytscha</i> CV spring-run chinook salmon	FT, ST	Sacramento River, Sacramento-San Joaquin Delta, and San Francisco Bay.	This species is known to occur within Project waters.	High. Species could occur in San Joaquin River near Project site.

**Table 3.4-3. Potential Special-Status Species within the Project Area**

Species*	Status <sup>1</sup>	Habitat	Distance to Nearest Reported Occurrence (Occ.)	Likelihood of Occurrence
<i>Oncorhynchus tshawytscha</i> Sacramento winter-run chinook salmon	FE, SE	Sacramento River, Sacramento-San Joaquin Delta, and San Francisco Bay.	This species is known to occur within Project waters.	High. Species could occur in San Joaquin River near Project site.
<b>Amphibians</b>				
<i>Ambystoma californiense</i> California tiger salamander	FT, ST	Requires underground refuges, especially ground squirrel burrows and vernal pools or other seasonal water sources for breeding.	Occ. # 101 is approximately 5 miles southwest of the southern end of Project site.	Absent. Project site lacks suitable habitat.
<i>Rana aurora draytonii</i> California red-legged frog	FT	Found in marshes, lakes, reservoirs, ponds, slow parts of streams, and other usually permanent water in lowlands, foothill woodlands and grasslands. Requires areas with extensive emergent vegetation.	Occ. # 531 is approximately 5.5 miles southwest of the southern end of Project site.	Absent. Project site lacks suitable habitat.
<b>Reptiles</b>				
<i>Masticophis lateralis euryxanthus</i> Alameda whipsnake	FT, ST	It is a slender, fast-moving, snake that inhabits the inner Coast Ranges in western and central Contra Costa and Alameda. It is typically found in open canopy chaparral and coastal scrub communities, and sometimes in grassland and oak savanna associations adjacent to the shrub habitats. Rock outcrops and talus with deep crevices and rodent burrows were important features for nightly retreats and winter hibernacula. It is a diurnal predator that seeks out and feeds almost exclusively on lizard prey.	Occurrences for this species are suppressed; therefore, the entire Antioch South Quadrangle is listed as an occurrence. The Antioch South Quad is approximately 1.5 miles south of Project site.	Absent. Project site lacks suitable habitat.
<i>Thamnophis gigas</i> Giant garter snake	FT, ST	Freshwater marshes and streams. Has adapted to drainage canals and irrigation ditches.	The buffer for Occurrence # 47 is located within the whole Project.	Moderate. Species could occur in wetlands adjacent to Project.

Table 3.4-3. Potential Special-Status Species within the Project Area

Species*	Status <sup>1</sup>	Habitat	Distance to Nearest Reported Occurrence (Occ.)	Likelihood of Occurrence
<i>Anninella pulchra pulchra</i> Silvery legless lizard	CSC	Occur in the Coast Range from Contra Costa County to Mexico. Common in coastal dune, valley-foothill, chaparral, and coastal scrub habitats. Found in loose soil and leaf litter.	Occurrence # 56 is located within a mile of Project site.	Absent. Project Site lacks suitable habitat.
<i>Emys marmorata</i> Western pond turtle	CSC	Ponds, marshes, rivers, streams and irrigation ditches with aquatic vegetation. Needs basking sites and suitable upland habitat (sandy banks or grassy open fields) for egg laying.	Occ. # 135 is approximately 3.5 miles west of Project site.	Moderate. Species could occur in river and in adjacent wetlands and uplands.
<b>Birds</b>				
<i>Melospiza melodia mailliardi</i> Song sparrow ("Modesto" population)	CSC	Found in freshwater marshes dominated by tules and cattails and willow thickets with source of running water and semi-open canopy. Abundant in Delta and Butte Sink.	Occ. # 36 is approximately 5 miles northwest of the northern end of Project site.	Low. Species could occur in wetlands outside of Project site.
<i>Melospiza melodia maxillaris</i> Suisun song sparrow	CSC	Found in emergent marshes, ponds, and ditches dominated by bulrushes, cattails, and other emergent wetland plants.	Occ. # 29 is approximately 3.75 miles northwest of the northern end of Project site.	Low. Species could occur in wetlands outside of Project site.
<i>Geothlypis trichas sinuosa</i> Saltmarsh common yellowthroat	CSC	It is a small insectivorous warbler that gleans on insects on or near the ground from low herbaceous vegetation, bushes, and small trees. It breeds in fresh and brackish water marshes near the Bay between March and August in an area from Tomales Bay on the north, Carquinez Strait on the east, and Santa Cruz County on the south. After the breeding season, the species will move into saltwater marshes.	Occ. # 7 is approximately 3.75 miles northwest of the northern end of Project site.	Low. Species could occur in wetlands outside of Project site.
<i>Lanius ludovicianus</i> Loggerhead shrike	CSC	Prefers open habitats with scattered shrubs, trees, posts, fences, utility lines, or other perches. Searches for prey (small birds, mammals, amphibians,	Occ. # 3 is approximately 3.75 miles southeast of the southern end of Project site.	Low. Species could occur in wetlands outside of Project site.

**Table 3.4-3. Potential Special-Status Species within the Project Area**

Species*	Status <sup>1</sup>	Habitat	Distance to Nearest Reported Occurrence (Occ.)	Likelihood of Occurrence
		reptiles, fish, carrion, etc.) from a perch at least 2 feet above ground.		
<i>Laterallus jamaicensis coturniculus</i> California black rail	ST	It is resident in brackish and saltmarsh habitats in the Bay-Delta area. It has been documented in Mallard Island Marsh and Port Chicago Marsh, in marsh areas along the south side of Suisun Bay, Peyton Slough, Hill Slough, and Grey Goose in Suisun Bay.	Occ. # 109 is approximately 1.75 miles southeast of the southern end of Project site.	Moderate. Species could occur in wetlands adjacent to Project.
<i>Elanus leucurus</i> White-tailed kite	FP	Rolling foothills/valley margins with scattered oaks and river bottomlands or marshes next to deciduous woodland. Found in open grasslands, meadows, or marshes for foraging close to isolated, dense-topped trees for nesting and perching.	Occ. # 17 is approximately 5 miles west of Project site.	Low. Species could occur in wetlands outside of Project site.
<i>Circus cyaneus</i> Northern harrier	CSC	Frequents meadows, grasslands, open rangelands, desert sinks, fresh and saltwater emergent wetlands; seldom found in wooded areas. Nests on ground near marsh edge or grassland. Preys on Feeds mostly on voles and other small mammals, birds, frogs, small reptiles, crustaceans, insects, and, rarely on fish.	There are no breeding occurrences of this species within 15 miles of Project site.	Low. Species could occur in wetlands outside of Project site.
<i>Agelaius tricolor</i> Tricolored blackbird	SE	Nesting colony requires open water, protected nesting substrate and foraging area with insect prey within a few km of the colony.	Occ. # 106 is approximately 10 miles northwest of the northern end of Project site.	Low. Species could occur in wetlands outside of Project site.
<i>Athene cunicularia</i> Burrowing owl	CSC	Uses burrow sites in open, dry annual or perennial grasslands, deserts and scrublands characterized by low-growing vegetation.	Occ. # 947 is approximately 1.25 miles south of the southern end of Project site.	Low. Species could occur in burrows along levee, but no burrows were observed nor were burrowing owls seen.

Table 3.4-3. Potential Special-Status Species within the Project Area

Species*	Status <sup>1</sup>	Habitat	Distance to Nearest Reported Occurrence (Occ.)	Likelihood of Occurrence
<i>Buteo swainsoni</i> Swainson's hawk	ST	Breeds in stands with few trees in juniper-sage flats, riparian areas and in oak savannah. Requires adjacent suitable foraging areas such as grasslands, or alfalfa or grain fields supporting rodent populations.	Occ. # 1799 is located within 0.5 mile south of the southern end of the Project. This occurrence is from 2012.	Moderate. Species could occur in trees south and east of Project site.
<i>Rallus longirostris obsoletus</i> California clapper rail	FE, SE	Occurs in emergent salt and brackish water marshlands of the San Francisco Bay with abundant vegetative cover of pickleweed, Pacific cordgrass, and bulrush.	Occ. # 102 is approximately 13 miles west of Project site.	Absent. Lack of suitable habitat.
<b>Mammals</b>				
<i>Lasiurus blossevillii</i> Western red bat	CSC	Range from western Canada to Central America. Roosts only in the foliage of riparian trees, primarily walnuts, oaks, willows, cottonwoods, and sycamores. Feeds on insects.	Occ. # 66 is approximately 2.25 miles southwest of the southern end of Project site.	Absent. Lack of suitable habitat.
<i>Reithrodontomys raviventris</i> Salt marsh harvest mouse	FE, SE	Pickleweed is its preferred habitat, but grasslands are used when new grass affords suitable cover in spring and summer months. Requires thick perennial vegetation in the middle and upper zones of tidally influenced salt marsh and peripheral halophyte zones.	Occ. # 66 is approximately 4 miles west of Project site.	Absent. Lack of suitable habitat.
<i>Taxidea taxus</i> American badger	CSC	Most abundant in drier open stages of most shrub, forest and herbaceous habitats, with friable soils. Need sufficient food, friable soils and open, uncultivated ground.	Occ. # 398 is approximately 5 miles south of southern end of Project site.	Absent. Lack of suitable habitat.
<b>Protected Status<sup>1</sup></b>				
FE = Federally Endangered		California State Rare	1B = California Rare Plant Rank 1B	
FT = Federally Threatened		CSC = California Species of Special Concern	2B = California Rare Plant Rank 2B	
SE = California State Endangered		FP = California Fully Protected Species		
ST = California State Threatened		1A = California Rare Plant Rank 1A		
* Information from the CNDDDB, CNPS Inventory, and USFWS Species List				

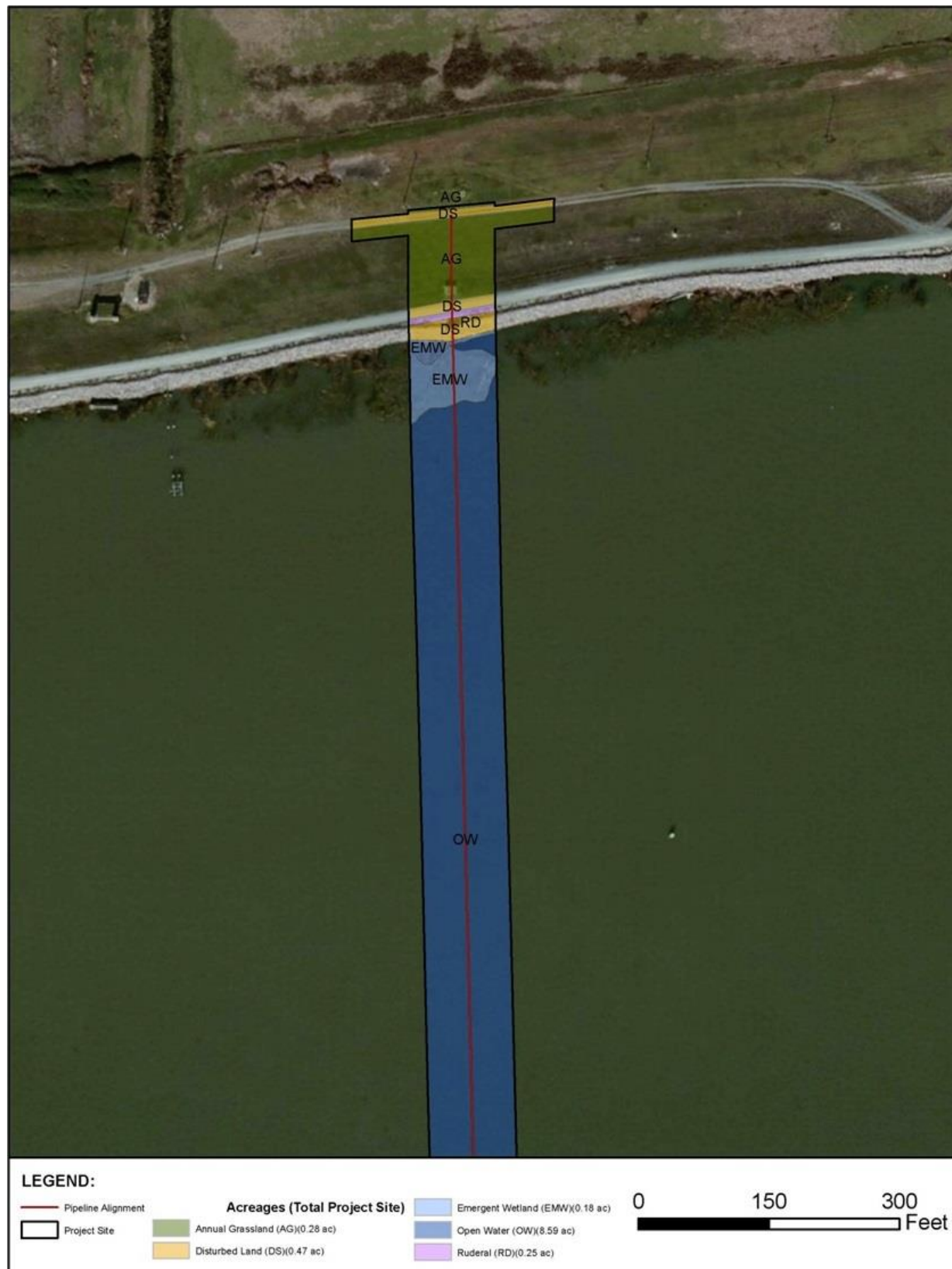


Figure 3.4-1A. Habitat Types North Landing





Figure 3.4-1B. Habitat Types South Landing

1    Emergent Wetland Marsh

2    The shallow water portions of the Project site along the shoreline are considered  
3    emergent wetland/marsh, and support hardstem bulrush (*Schoenoplectus acutus*) and  
4    water hyacinth (*Eichhornia crassipes*). The marsh extends approximately 25 to 40 feet  
5    riverward from the levees and along the entire width of both the North Landing and  
6    South Landing Foreshores (See Figures 3.4-1A, 3.4-1B, 3.4-2 and 3.4-3). This  
7    community accounted for approximately 0.18 acre within the total Project area and may  
8    be considered waters of the U.S. and/or waters of the State pursuant to Sections 404  
9    and 401 of the Federal Clean Water Act (CWA).

10   Ruderal

11   This community occurs in disturbed terrestrial areas along the pipeline alignment. Within  
12   the riprap, along the north landing levee slopes and terraces, and along the pipeline  
13   alignment within the marina at the south landing amid the boat trailer storage area. This  
14   community accounted for approximately 0.25 acre. See Table 3.4-3 and Figures 3.4-1A  
15   and 3.4-1B.

16   Annual Grassland

17   This habitat type is found along the levee slopes and is dominated by non-native grass.  
18   Species identified included Bermuda grass (*Cynodon dactylon*), wild oat (*Avena fatua*),  
19   Mediterranean barley (*Hordeum marinum* ssp. *gussoneanum*), clover (*Trifolium* sp.),  
20   vetch (*Vicia* sp.), horseweed (*Conyza canadensis*), and filaree (*Erodium cicutarium*)  
21   (Figure 3.4-4 and Figure 3.4-5). This community accounted for approximately 0.28 acre.  
22   See Table 3.4-3 and Figures 3.4-1A and 3.4-1B.

23   Disturbed Land

24   This habitat type includes areas covered in gravel or other developed structures like  
25   roads and buildings. Vegetation, if it exists, is very sparse and generally composed of  
26   hardy weedy species. This community accounted for approximately 0.47 acre. See  
27   Table 3.4-3 and Figures 3.4-1A and 3.4-1B.

28   Open Water

29   The San Joaquin River is categorized as a “navigable water of the U.S.” under Section  
30   10 of the Federal Rivers and Harbors Act of 1899, a “water of the U.S.” pursuant to  
31   Section 404 of the CWA, and a water of the State. Water depths vary from less than 4  
32   feet near the shoreline to approximately 40 feet in the river channel. Currents are strong  
33   through the Project area.



**Figure 3.4-2. View of North Landing Foreshore**



**Figure 3.4-3. View of South Landing Foreshore**





**Figure 3.4-4. View Along North Slope of Levee at North Landing. Pipeline Vault at Right**



**Figure 3.4-5. View Along Boat Trailer Storage Over Buried Pipeline at South Landing**

## Special-Status Species

A list of special-status species that have been reported within approximately 5 miles of the Project site was compiled based on a species list obtained from the U.S. Fish and Wildlife Service (USFWS) website, a query of the California Natural Diversity Database (CNDDDB), and a query of the California Native Plant Society (CNPS) database California Rare Plant Ranking System (CRPR) (Table 3.4-3) (Figure 3.4-6). Table 3.4-3 provides a likelihood of occurrence analysis based on the species range, habitat requirements, and timing of inhabitation. Certain species, such as those associated with vernal pool habitats, were eliminated from these analyses due to the absence of vernal pools within the Project site. As a result, the species described below are limited to those listed species that have a potential to occur on the Project site. Additional information regarding those species with the potential to occur within the Project site is discussed in Appendix D (Biological Reconnaissance Survey).

### Plants

Special-status plants that have a moderate potential to occur within the Project site include: Bolander's water hemlock (*Cicuta maculata* var. *bolanderi*), which has been reported within 1 mile of the site; soft bird's-beak (*Chloropyron molle* ssp. *molle*), which was reported at the northern end of the site; woolly rose mallow (*Hibiscus lasiocarpus* var. *occidentalis*), which was reported in riprap habitat within 5 miles of the site; and Delta tule pea (*Lathyrus jepsonii* var. *jepsonii*), Mason's lilaeopsis (*Lilaeopsis masonii*), Delta mudwort (*Limosella australis*), and Suisun Marsh aster (*Symphyotrichum lentum*), which were reported within 500 feet of the site (Table 3.4-3).

### Fish

Special status fish species that have the potential to occur within the San Joaquin River at the Project site include: Sacramento perch (*Archoplites interruptus*), green sturgeon (*Acipenser medirostris*), Delta smelt (*Hypomesus transpacificus*), longfin smelt (*Spirinchus thaleichthys*), Sacramento splittail (*Pogonichthys macrolepidotus*), Central Valley steelhead (*Oncorhynchus mykiss*), Central Valley spring-run Chinook salmon (*Oncorhynchus tshawytscha*), and Sacramento winter-run Chinook salmon (*Oncorhynchus tshawytscha*).

### Reptiles

Special-status reptile species that have a moderate potential to occur within the Project site include the giant garter snake (GGS) (*Thamnophis gigas*), which has two reported occurrences within 0.3 mile and 1.5 miles of the Project site, and western pond turtle (*Emys marmorata*), which has been reported within 3.5 miles of the site.

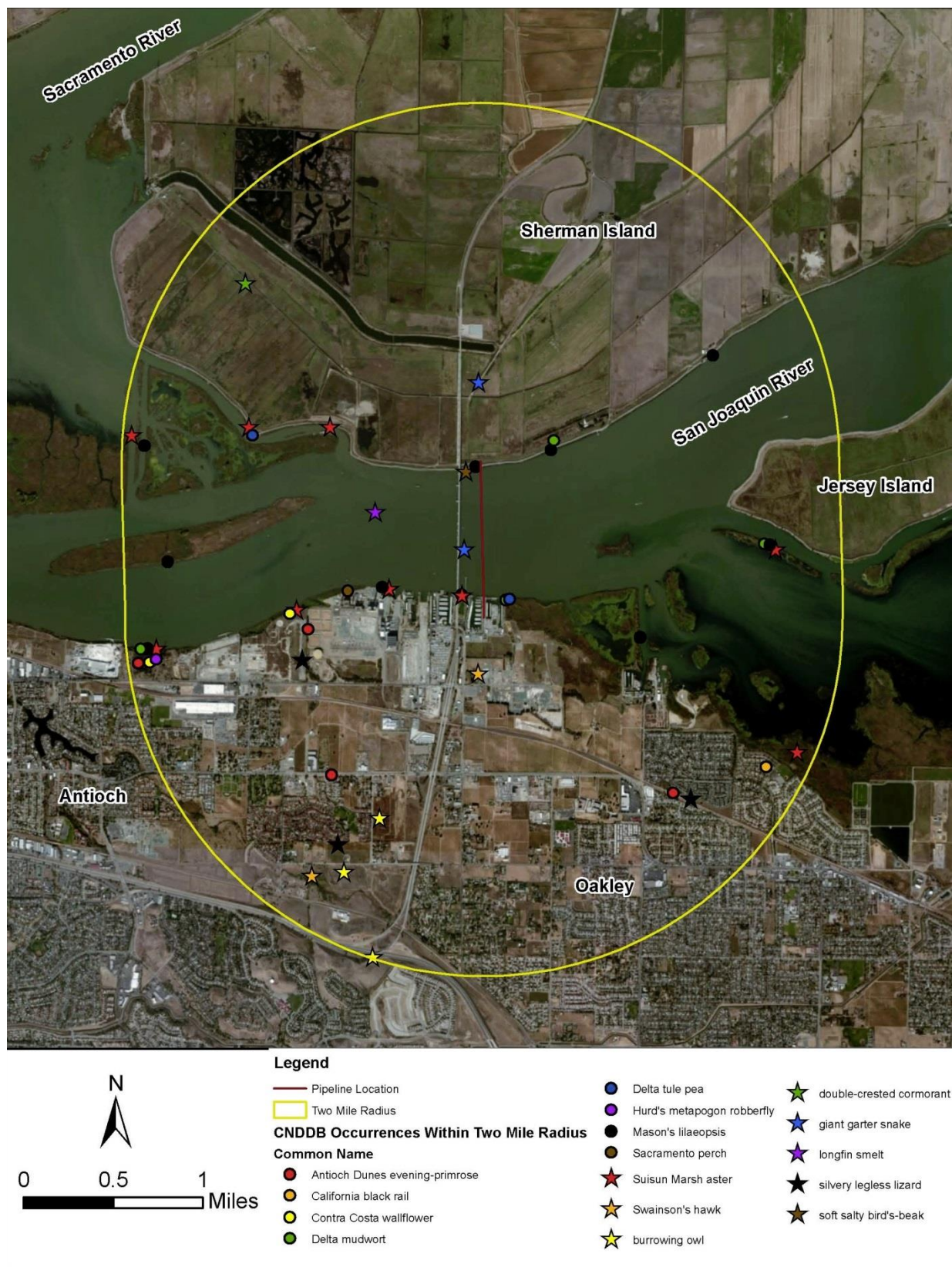


Figure 3.4-6. Special-Status Species Occurrences



## Birds

Special-status bird species that have a moderate potential to occur near the Project site include California black rail (*Laterallus jamaicensis*), which has been reported within 1.75 miles of the site, and Swainson's hawk (*Buteo swainsoni*), which was reported within 0.5 mile of the site. California black rail nesting was reported in 1981 in an area approximately 1.5 miles southeast of the south landing. On the north landing in Sacramento County, the closest occurrence was in 2005 approximately 3.75 miles west-northwest of the Project site. Extensive wetlands and potential black rail habitat occur north of the north landing levee. Along the south landing, a Swainson's hawk nest site was reported 0.25 mile south of the Project site in 2012. On the north landing in Sacramento County, the closest occurrence was in 2012 approximately 2.75 miles east of the Project site.

### 3.4.2 Regulatory Setting

#### 3.4.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.4-4.

**Table 3.4-4. Laws, Regulations, and Policies (Biological Resources)**

U.S.	Endangered Species Act (FESA) (7 USC 136, 16 USC 1531 et seq.)	<p>The FESA, which is administered in California by the U.S. Fish and Wildlife Service (USFWS) and National Marine Fisheries Service (NMFS), provides protection to species listed as threatened or endangered, or proposed for listing as threatened or endangered. Section 9 prohibits the "take" of any member of a listed species.</p> <ul style="list-style-type: none"> <li>• Take is defined as "...to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct."</li> <li>• Harass is "an intentional or negligent act or omission that creates the likelihood of injury to a listed species by annoying it to such an extent as to significantly disrupt normal behavior patterns that include, but are not limited to, breeding, feeding, or sheltering."</li> <li>• Harm is defined as "...significant habitat modification or degradation that results in death or injury to listed species by significantly impairing behavioral patterns such as breeding, feeding, or sheltering."</li> </ul> <p>When applicants are proposing projects with a Federal nexus that "may affect" a Federally listed or proposed species, the Federal agency is required to consult with the USFWS or NMFS, as appropriate, under Section 7, which provides that each Federal agency must ensure that any actions authorized, funded, or carried out by the agency are not likely to jeopardize the continued existence of any endangered or threatened species or result in the destruction or adverse modification of areas determined to be critical habitat.</p>
U.S.	Magnuson-Stevens Fishery Conservation and	<p>The MSA is the primary law governing marine fisheries management in U.S. Federal waters. The MSA was first enacted in 1976 and amended in 1996. Amendments to the 1996 MSA require the identification of Essential Fish Habitat (EFH) for federally managed species and the implementation of measures to conserve and enhance this habitat. Any project requiring Federal authorization,</p>

**Table 3.4-4. Laws, Regulations, and Policies (Biological Resources)**

	Management Act (MSA) (16 USC 1801 et seq.)	such as a USACE permit, is required to complete and submit an EFH Assessment with the application and either show that no significant impacts to the essential habitat of managed species are expected or identify mitigations to reduce those impacts. Under the MSA, Congress defined EFH as “those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity” (16 USC 1802(10)). The EFH provisions of the MSA offer resource managers a means to heighten consideration of fish habitat in resource management. Pursuant to section 305(b)(2), Federal agencies shall consult with the NMFS regarding any action they authorize, fund, or undertake that might adversely affect EFH.
U.S.	Migratory Bird Treaty Act (MBTA) (16 USC 703-712)	The MBTA was enacted to ensure the protection of shared migratory bird resources. The MBTA prohibits the take, possession, import, export, transport, selling, purchase, barter, or offering for sale, purchase, or barter, of any migratory bird, their eggs, parts, and nests, except as authorized under a valid permit. The responsibilities of Federal agencies to protect migratory birds are set forth in Executive Order 13186. The USFWS is the lead agency for migratory birds. The USFWS issues permits for takes of migratory birds for activities such as scientific research, education, and depredation control, but does not issue permits for incidental take of migratory birds.
U.S.	Other	<ul style="list-style-type: none"> <li>• The Bald and Golden Eagle Protection Act makes it illegal to import, export, take (including molest or disturb), sell, purchase or barter any bald eagle or golden eagle or parts thereof.</li> <li>• Clean Water Act (33 USC 1251 et seq.) and Rivers and Harbors Act (33 USC 401) (see Section 3.9, Hydrology and Water Quality).</li> <li>• Executive Order 13112 requires Federal agencies to use authorities to prevent introduction of invasive species, respond to and control invasions in a cost-effective and environmentally sound manner, and provide for restoration of native species and habitat conditions in invaded ecosystems.</li> <li>• Executive Order 13158 requires Federal agencies to identify actions that affect natural or cultural resources within a Marine Protected Area (MPA) and, in taking such actions, to avoid harm to the natural and cultural resources that are protected by a MPA.</li> </ul>
CA	California Endangered Species Act (CESA) (Fish & Game Code, § 2050 et seq.)	The CESA provides for the protection of rare, threatened, and endangered plants and animals, as recognized by the California Department of Fish and Wildlife (CDFW), and prohibits the taking of such species without its authorization. Furthermore, the CESA provides protection for those species that are designated as candidates for threatened or endangered listings. Under the CESA, the CDFW has the responsibility for maintaining a list of threatened species and endangered species (Fish & Game Code, § 2070). The CDFW also maintains a list of candidate species, which are species that the CDFW has formally noticed as under review for addition to the threatened or endangered species lists. The CDFW also maintains lists of Species of Special Concern that serve as watch lists. Pursuant to the requirements of the CESA, an agency reviewing a proposed project within its jurisdiction must determine whether any State-listed endangered or threatened species may be present in the project site and determine whether the proposed project will have a potentially significant impact on such species. In addition, the CDFW encourages informal consultation on any proposed project that may affect a candidate species. The CESA also requires a permit to take a State-listed species through incidental or otherwise lawful activities (§ 2081, subd. (b)).
CA	Lake and Streambed	The CDFW regulates activities that would interfere with the natural flow of, or substantially alter, the channel, bed, or bank of a lake, river, or stream. These

**Table 3.4-4. Laws, Regulations, and Policies (Biological Resources)**

	Alteration Program (Fish & Game Code, §§ 1600-1616)	regulations require notification of the CDFW for lake or stream alteration activities. If, after notification is complete, the CDFW determines that the activity may substantially adversely affect an existing fish and wildlife resource, the CDFW has authority to issue a Streambed Alteration Agreement.
CA	Other relevant California Fish and Game Code sections	<ul style="list-style-type: none"> <li>• The California Native Plant Protection Act (Fish &amp; G. Code, § 1900 et seq.) is intended to preserve, protect, and enhance endangered or rare native plants in California. This Act includes provisions that prohibit the taking of listed rare or endangered plants from the wild and a salvage requirement for landowners. The Act directs the CDFW to establish criteria for determining what native plants are rare or endangered. Under section 1901, a species is endangered when its prospects for survival and reproduction are in immediate jeopardy from one or more causes. A species is rare when, although not threatened with immediate extinction, it is in such small numbers throughout its range that it may become endangered.</li> <li>• The California Species Preservation Act (Fish &amp; Game Code, §§ 900-903) provides for the protection and enhancement of the amphibians, birds, fish, mammals, and reptiles of California.</li> <li>• Fish and Game Code sections 3503 &amp; 3503.5 prohibit the taking and possession of native birds' nests and eggs from all forms of needless take. These regulations also provide that it is unlawful to take, possess, or destroy any birds in the orders Falconiformes or Strigiformes (birds-of-prey) or to take, possess, or destroy the nests or eggs of any such bird except as otherwise provided by this Code or any regulation adopted pursuant thereto.</li> <li>• Fish and Game Code sections 3511 (birds), 4700 (mammals), 5050 (reptiles and amphibians), and 5515 (fish) designate certain species as "fully protected." Fully protected species, or parts thereof, may not be taken or possessed at any time without permission by the CDFW.</li> <li>• Fish and Game Code section 3513 does not include statutory or regulatory mechanism for obtaining an incidental take permit for the loss of non-game, migratory birds.</li> </ul>

1 3.4.2.2 Local

2 Local laws and regulations pertaining to this issue area and relevant to the Project are  
3 identified in Table 3.4-5.

**Table 3.4-5. Local Laws, Regulations, and Policies (Biological Resources)**

Conservation Element Of Contra Costa County General Plan 2005-2020	
Goal 8-E	To protect rare, threatened and endangered species of fish, wildlife and plants, significant plant communities, and other resources which stand out as unique because of their scarcity, scientific value, aesthetic quality or cultural significance. Attempt to achieve a significant net increase in wetland values and functions within the County over the life of the General Plan. The definition of rare, threatened and endangered includes those definitions provided by the Federal Endangered Species Act, the California Endangered Species Act, the California Native Plant Protection Act, and the California Environmental Quality Act.
Goal 8-F	To encourage the preservation and restoration of the natural characteristics of the San Francisco Bay/Delta estuary and adjacent lands, and recognize the role of Bay vegetation and water area in maintaining favorable climate, air and water quality, fisheries and

**Table 3.4-5. Local Laws, Regulations, and Policies (Biological Resources)**

	migratory waterfowl.
Policy 8-6	Significant trees, natural vegetation, and wildlife populations generally shall be preserved.
Policy 8-7	Important wildlife habitats which would be disturbed by major development shall be preserved, and corridors for wildlife migration between undeveloped lands shall be retained.
Policy 8-13	The critical ecological and scenic characteristics of rangelands, woodlands, and wildlands shall be recognized and protected.
Policy 8-15	Existing vegetation, both native and non-native, and wildlife habitat areas shall be retained in the major open space areas sufficient for the maintenance of a healthy balance of wildlife populations.
Policy 8-17	The ecological value of wetland areas, especially the salt marshes and tidelands of the bay and delta, shall be recognized. Existing wetlands in the County shall be identified and regulated. Restoration of degraded wetland areas shall be encouraged and supported whenever possible.
Policy 8-24	The County shall strive to identify and conserve remaining upland habitat areas which are adjacent to wetlands and are critical to the survival and nesting of wetland species.
Policy 8-25	The County shall protect marshes, wetlands, and riparian corridors from the effects of potential industrial spills.
<b>City of Oakley 2020 General Plan</b>	
Goal 6.3	Encourage preservation of important ecological and biological resources.
Policy 6.3.5	Encourage preservation and enhancement of Delta wetlands, significant trees, natural vegetation, and wildlife populations.
Policy 6.3.6	Encourage preservation of portions of important wildlife habitats that would be disturbed by major development, particularly adjacent to the Delta
<b>Sacramento County General Plan Delta Protection Policies</b>	
DP-25	Preserve and protect the natural resources of the Delta. Promote protection of remnants of riparian and aquatic habitat. Encourage compatibility between agricultural practices, recreational uses and wildlife habitat. Partner with Sacramento Regional County Sanitation District and other partners to promote and encourage the use of recycled water for agricultural, habitat and water conservation purposes where feasible.
DP-26	Encourage farmers to implement management practices to maximize habitat values for migratory birds and other wildlife. Appropriate incentives, such as the purchase of conservation easements from willing sellers or other actions, should be encouraged.
DP-27	Lands managed primarily for wildlife habitat should be managed to maximize ecological values. Appropriate programs, such as "Coordinated Resource Management and Planning" (Public Resources Code Section 9408(c)) should ensure full participation by local government and property owner representatives.
DP-28	Support the non-native invasive species control measures being implemented by the California Department of Fish and Game, the California Department of Boating and Waterways, the California Emergency Management Agency, the California Department of Food and Agriculture, the State Water Resources Control Board, the Central Valley and San Francisco Bay Regional Water Quality Control Boards, and the Agricultural Commissioners for the five Delta Counties (Yolo, Solano, Sacramento, San Joaquin, and Contra Costa), which include controlling the arrival of new species into the Delta.
DP-29	Preserve and protect the viability of agricultural areas by including an adequate financial mechanism in any planned conversion of agricultural lands to wildlife habitat for conservation purposes. The financial mechanism shall specifically offset the loss of local government and special district revenues necessary to support public services and infrastructure.
DP-30	Support the implementation of appropriate buffers, management plans and/or good

**Table 3.4-5. Local Laws, Regulations, and Policies (Biological Resources)**

	neighbor policies (e.g., safe harbor agreements) that among other things, limit liability for incidental take associated with adjacent agricultural and recreational activities within lands converted to wildlife habitat to avoid or minimize negative effects on the ongoing agricultural and recreational operations adjacent to the converted lands.
DP-31	Incorporate, to the maximum extent feasible, suitable and appropriate wildlife protection, restoration and enhancement on publicly-owned land as part of a Delta-wide plan for habitat management.
DP-32	Promote ecological, recreational and agricultural tourism in order to preserve the cultural values and economic vitality that reflect the history, natural heritage and human resources of the Delta including the establishment of National Heritage Area designations.
DP-33	Protect and restore ecosystems and adaptively manage them to minimize impacts from climate change and other threats and support their ability to adapt in the face of stress.
DP-34	Support the design, construction, and management of any flooding program to provide seasonal wildlife and aquatic habitat on agricultural lands, duck club lands and additional seasonal and tidal wetlands, shall incorporate "best management practices" to minimize vectors including mosquito breeding opportunities, and shall be coordinated with the local vector control districts. (Each of the four vector control districts in the Delta provides specific wetland/mosquito management criteria to landowners within their district.)
<b>Sacramento County General Plan Conservation Element</b>	
<i>Habitat Mitigation Policies</i>	
CO-58	Ensure no net loss of wetlands, riparian woodlands, and oak woodlands.
CO-59	Ensure mitigation occurs for any loss of or modification to the following types of acreage and habitat function: <ul style="list-style-type: none"> <li>• vernal pools,</li> <li>• wetlands,</li> <li>• riparian,</li> <li>• native vegetative habitat, and</li> <li>• special status species habitat.</li> </ul>
CO-60	Mitigation should be directed to lands identified on the Open Space Vision Diagram and associated component maps (please refer to the Open Space Element).
CO-61	Mitigation should be consistent with County-adopted habitat conservation plans.
CO-62	Permanently protect land required as mitigation.
CO-63	Vernal pools, wetlands, and streams within identified preserves shall not be drained, excavated, or filled for the purpose of converting the land to another use. If fill or modification is required for Drainage Master Plans, stormwater quality or levee maintenance, creation or restoration of an equal amount must occur within the boundaries of the preserve to achieve no net loss consistent with policy CO-58.
CO-64	Consistent with overall land use policies, the County shall support and facilitate the creation and biological enhancement of large natural preserves or wildlife refuges by other government entities or by private individuals or organizations.
CO-65	Create a network of preserves linked by wildlife corridors of sufficient size to facilitate the movement of species.
CO-66	Mitigation sites shall have a monitoring and management program including an adaptive management component including an established funding mechanism. The programs shall be consistent with Habitat Conservation Plans that have been adopted or are in draft format.
CO-67	Preserves and conservation areas should have an established funding mechanism, and where needed, an acquisition strategy for its operation and management in perpetuity. This includes existing preserves such as the American River Parkway, Dry Creek

**Table 3.4-5. Local Laws, Regulations, and Policies (Biological Resources)**

	Parkway, Cosumnes River Preserve and other plans in progress for riparian areas like Laguna Creek.
CO-68	Preserves shall be planned and managed to the extent feasible so as to avoid conflicts with adjacent agricultural activities (Please also refer to the Agricultural Element).
CO-69	Avoid, to the extent possible, the placement of new major infrastructure through preserves unless located along disturbed areas, such as existing roadways.
<i>Habitat Protection and Project Review Policies</i>	
CO-70	Community Plans, Specific Plans, Master Plans and development projects shall: <ul style="list-style-type: none"> <li>• Include the location, extent, proximity and diversity of existing natural habitats and special status species in order to determine potential impacts, necessary mitigation and opportunities for preservation and restoration.</li> <li>• Be reviewed for the potential to identify non-development areas and establish preserves, mitigation banks and restore natural habitats, including those for special status species, considering effects on vernal pools, groundwater, flooding, and proposed fill or removal of wetland habitat.</li> <li>• Be reviewed for applicability of protection zones identified in this Element, including the Floodplain Protection Zone, Stream Corridor Ordinance, Cosumnes River Protection Combining Zone and the Laguna Creek Combining Zone.</li> </ul>
CO-71	Development design shall help protect natural resources by: <ul style="list-style-type: none"> <li>• Minimizing total built development in the floodplain, while designing areas of less frequent use that can support inundation to be permitted in the floodplain,</li> <li>• Ensuring development adjacent to stream corridors and vernal pools provide, where physically reasonable, a public street paralleling at least one side of the corridor with vertical curbs, gutters, foot path, street lighting, and post and cable barriers to prevent vehicular entry.</li> <li>• Projects adjacent to rivers and streams shall integrate amenities, such as trail connectivity, that will serve as benefits to the community and ecological function.</li> <li>• Siting of wetlands near residential and commercial areas should consider appropriate measures to minimize potential for mosquito habitation.</li> <li>• Development adjacent to steam corridors and vernal pools shall be designed in such a manner as to prevent unauthorized vehicular entry into protected areas.</li> </ul>
CO-72	If land within river and stream watersheds in existing agricultural areas is developed for non-agricultural purposes, the County should actively pursue easement dedication for recreation trails within such development as a condition of approval.
CO-73	Secure easement or fee title to open space lands within stream corridors as a condition of development approval.
CO-74	Evaluate feasible on-site alternatives early on in the planning process and prior to the environmental review process that reduce impacts on wetland and riparian habitat and provide effective on-site preservation in terms of minimum management requirements, effective size, and evaluation criteria.
<i>Protection of Special Status Species Habitat Policies</i>	
CO-75	Maintain viable populations of special status species through the protection of habitat in preserves and linked with natural wildlife corridors.
CO-76	Habitat conservation plans shall be adopted by the County to provide a comprehensive strategy to protect and aid in the recovery of special status species.
CO-77	Development of open space acquisition programs within natural areas shall consider whether the area is occupied by special status species.
CO-78	Plans for urban development and flood control shall incorporate habitat corridors linking habitat sites for special status species. (Please also refer to the Open Space Element for related policies.)

**Table 3.4-5. Local Laws, Regulations, and Policies (Biological Resources)**

<i>Manage Lands for Special Status Species Policies</i>	
CO-79	Manage vegetation on public lands with special status species to encourage locally native species and discourage nonnative invasive species.
CO-80	Control human access to sensitive habitat areas on public lands to minimize impact upon and disturbance of special status species.
CO-81	Protect sensitive habitat areas on public lands and seek agreements with adjacent property owners to reduce/minimize pesticide and other similar chemical applications.
CO-82	Ensure that mosquito control measures have the least effect on non-target species.
<i>Vernal Pool Preservation Policies</i>	
CO-83	Preserve a representative portion of vernal pool resources across their range by protecting vernal pools on various geologic landforms, vernal pools that vary in depth and size, and vernal pool complexes of varying densities; in order to maintain the ecological integrity of a vernal pool ecosystem.
CO-84	Ensure that vernal pool preserves are large enough to protect vernal pool ecosystems that provide intact watersheds and an adequate buffer, have sufficient number and extent of pools to support adequate species populations and a range of vernal pool types.
CO-85	Utilize proper vernal pool restoration techniques as approved by U.S. Fish and Wildlife Service (U.S. FWS), California Department of Fish and Game (CDF&G) and the Army Corps of Engineers (USACE).
CO-86	Limit land uses within established preserves to activities deemed compatible with maintenance of the vernal pool resource, which may include ranching, grazing, scientific study and education.
<i>Riparian Habitat Policies</i>	
CO-87	Encourage private landowners to protect, enhance and restore riparian habitat.
CO-88	Where removal of riparian habitat is necessary for channel maintenance, it will be planned and mitigated so as to minimize unavoidable impacts upon biological resources.
CO-89	Protect, enhance and maintain riparian habitat in Sacramento County.
CO-90	Increase riparian woodland, valley oak riparian woodland and riparian scrub habitat along select waterways within Sacramento County.
CO-91	Discourage introductions of invasive non-native aquatic plants and animals.
CO-92	Enhance and protect shaded riverine aquatic habitat along rivers and streams.
<i>Channel Modification Policies</i>	
CO-102	Promote and encourage habitat restoration efforts on and adjacent to our river floodways.
CO-103	Protect the Cosumnes River Corridor by promoting the preservation of agriculture, natural habitat and limited recreational uses adjacent to the river channel, and when feasible by acquiring appropriate lands or easements adjacent to the river.
CO-104	Promote the preservation of the Mokelumne River.
<i>Maintenance of Rivers and Streams Policies</i>	
CO-120	Development projects adjacent to rivers and streams shall provide unencumbered maintenance access.
CO-121	No grading, clearing, tree cutting, debris disposal or any other despoiling action shall be allowed in rivers and streams except for normal channel maintenance, restoration activities, and road crossings.
CO-122	River and stream maintenance should allow natural vegetation in and along the channel to assist in removal of nutrients, pollutants, and sediment and to increase bank stabilization, while minimizing impacts on conveyance.
CO-123	The use of native plant species shall be encouraged on revegetation plans.
CO-124	Maintain and manage rivers and streams to encourage special status species.



**Table 3.4-5. Local Laws, Regulations, and Policies (Biological Resources)**

<i>Fisheries Policies</i>	
CO-126	Prohibit obstruction or underground diversion of natural waterways.
CO-127	Protect, preserve, and restore migratory routes for anadromous species.
CO-128	Require screens on diversion pumps or similar bypass apparatus to reduce fish mortality.
CO-129	Require screening on all public water diversion facilities.
CO-130	Protect, enhance and restore riparian, in-channel and shaded riverine aquatic habitat for: <ul style="list-style-type: none"> <li>• Spawning and rearing of fish species, including native and recreational non-native, non-invasive species, where they currently spawn;</li> <li>• Potential areas where natural spawning could be sustainable; and</li> <li>• Supporting other aquatic species.</li> </ul>

### 3.4.3 Impact Analysis

***a) Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special-status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

**Less than Significant with Mitigation.** Although no special-status species were observed during project site visits surveys in the area, several special-status plant and wildlife species are known to occur, or have the potential to occur, on or near the Project site.

Worker awareness would play an important role in successfully implementing protections and avoiding impact to special-status species and sensitive habitat during the Project. In addition, a qualified environmental monitor(s) would be present during construction activities. **MM BIO-1: Worker Environmental Awareness Program** and **MM BIO-2: Biological Compliance Monitoring Program**, would reduce impacts to special-status species and habitats within the Project area, and reduce potential impacts to water quality from resuspension of riverbed sediments, including methylmercury, to a less than significant level.

**MM BIO-1: Worker Environmental Awareness Program (WEAP).** A California State Lands Commission (CSLC)-approved biologist shall conduct pre-construction WEAP training for work crew members prior to any construction activities and periodic training if new crew members report to the Project. Training materials shall be submitted to CSLC staff for approval 3 weeks prior to commencement of Project activities. The WEAP shall include a discussion of the potential presence of special-status species and habitats within the Project area, and protection measures to ensure species are not impacted by Project activities. Interpretation shall be provided for non-English speakers.

**MM BIO-2: Biological Compliance Monitoring Program.** Prior to the commencement of offshore activities, Pacific Gas and Electric (PG&E) shall

1 submit a Project-specific Biological Compliance Monitoring Program to  
2 California State Lands Commission (CSLC) staff for review and approval 60  
3 days prior to decommissioning activities. The Program shall indicate the  
4 appropriate number of CSLC-approved biologists to conduct monitoring for  
5 each phase of the Project. At a minimum, the monitor(s) shall:

- 6 • Monitor the work area for special-status species prior to daily construction.  
7 If western pond turtle and giant garter snake are present and require  
8 removal to avoid harm, the California Department of Fish and Wildlife  
9 (CDFW) and/or the U.S. Fish and Wildlife Service (USFWS) shall be  
10 notified and a qualified wildlife biologist shall be employed to trap  
11 individuals in accordance with methods approved by the CDFW/USFWS.  
12 A relocation site shall be identified by the wildlife biologist, in consultation  
13 with the CDFW/USFWS, and the individual shall be relocated.
- 14 • Record all work activities on a daily basis.
- 15 • Ensure Project compliance with all agency conditions and mitigation  
16 measures that could potentially affect biological resources.
- 17 • If necessary, issue stop work orders, and ensure, in conjunction with the  
18 decommissioning contractor staff and PG&E staff, that non-compliance  
19 remedies are fully implemented.
- 20 • Conduct daily water quality monitoring.
- 21 • Prepare a final monitoring report for submittal to CSLC staff within 30 days  
22 of Project completion.

23 Terrestrial Project activities are confined to the northern levee crown and landward side  
24 slope at the north landing, which is in non-native grassland/ruderal vegetative habitat.  
25 Equipment staging would be along the existing Sherman Island East Levee Road and  
26 toe road, which are also previously disturbed areas within non-native cover. On the  
27 south landing, a small area (27 square feet) where the existing pipeline crossing sign  
28 exists would be impacted. Most of the habitat is non-native grassland and ruderal  
29 vegetation. These habitats generally do not provide suitable habitat for special-status  
30 plant species and none was observed during winter surveys. However, to ensure that  
31 impacts to special-status plants would not occur during construction, the following MM  
32 to complete preconstruction surveys prior to work would further avoid potential impacts  
33 to special-status plants.

34 **MM BIO-3: Preconstruction Surveys for Special-Status Plant Species.** Prior to  
35 Project initiation, a qualified botanist shall survey the Project site to identify  
36 special-status plants. The surveys would be conducted during the appropriate  
37 blooming period. If a special-status plant or stand is found, it shall be flagged,  
38 and the California Department of Fish and Wildlife (CDFW) and/or the U.S.  
39 Fish and Wildlife Service (USFWS), and California State Lands Commission  
40 (CSLC) staff shall be notified. If impacts cannot be avoided by isolating the

1 plant from the work area by temporary fencing or other means, with  
2 concurrence of the resource agencies, a qualified botanist shall be consulted  
3 to identify an appropriate location for relocating the plants, or for temporarily  
4 holding them for future restoration of the site, or to collect seeds or cuttings  
5 for use during restoration. A copy of the preconstruction survey shall be  
6 submitted to CDFW, USFWS, and CSLC staffs prior to Project initiation.

7 If special-status plants are observed during Project surveys, Pacific Gas and  
8 Electric shall submit California Natural Diversity Database (CNDDDB) forms to  
9 the CDFW Biogeographic Data Branch (CNDDDB@dfg.ca.gov) with all pre-  
10 construction survey data within five working days of the sighting and shall  
11 provide CDFW's Bay Delta Region with copies of the CNDDDB forms and  
12 survey maps.

13 The Project would result in the disturbance of riverbed habitat during pipeline removal.  
14 The total area impacted is approximately 0.97 acre (based on a 3,519-foot-long by  
15 12-foot-wide by 5.5-foot-deep impact area). The total volume of sediments expected to  
16 be affected is approximately 8,602 cy. Construction activities within the San Joaquin  
17 River, which provides spawning and foraging habitat and migration corridors for several  
18 special-status fish species, could degrade water quality, remove cover, and otherwise  
19 cause harm to special-status species. However, over the 60-day Project duration, the  
20 average daily impact footprint is estimated to be approximately 0.016 acre.

21 Impacts to water quality due to disturbance of sediments would be brief and temporary.  
22 The sandy sediments that characterize the channel bottom within the Project area are  
23 expected to rapidly settle to the bottom, and would not be expected to add substantially  
24 to the natural water column turbidity or decrease dissolved oxygen levels. Finer  
25 sediments could be expected to move down current for some distance. The addition of  
26 these sediments to the relatively high natural suspended sediment load within the San  
27 Joaquin River is not considered significant and would not be expected to result in  
28 exceeding the water quality objective for turbidity. Near-bottom water currents would be  
29 expected to rapidly disperse suspended material further reducing long-term water  
30 column turbidity from the proposed activities.

31 Specific potential impacts to special-status fish species include the following:

- 32 • Delta smelt: Direct contact with excavation equipment and temporary  
33 degradation of habitat.
- 34 • Steelhead: Short-term interference with migration, temporary degradation of  
35 water quality, temporary loss or degradation of habitat and temporary  
36 interference with foraging or food resources.
- 37 • Chinook salmon: Short-term interference with migration, temporary degradation  
38 of water quality for both adults and juveniles and the additional potential impacts

1 of interference with foraging or food resources, and direct contact with equipment  
2 and operations.

- 3 • Green sturgeon: Short-term interference with migration, temporary degradation of  
4 water quality, temporary loss or degradation of habitat and temporary  
5 interference with foraging or food resources.

- 6 • Longfin smelt: Short-term interference with migration, temporary degradation of  
7 water quality, temporary loss or degradation of habitat and interference with  
8 foraging or food resources.

- 9 • Sacramento splittail: Temporary degradation of water quality, and interference  
10 with foraging or food resources.

- 11 • Sacramento perch: Temporary degradation of water quality, and interference with  
12 foraging or food resources.

13 Protective measures such as the use of a silt curtain would not be effective in  
14 minimizing turbidity impacts due to the flow rate and strong current associated with the  
15 San Joaquin River at the crossing location and the highly variable natural sediment load  
16 occurring as baseline in the river. Additionally, use of a silt curtain would not be feasible  
17 for the Project due to the location of work activities within the ship channel, as the  
18 marine spread must be readily able to move to accommodate ship traffic through the  
19 work area. **MM BIO-2, MM BIO-4: In-Water Work Windows and Protections, and MM**  
20 **WQ-1: Surface Water Protection** would avoid or reduce impacts to special-status fish  
21 species to a less than significant level.

22 **MM BIO-4: In-Water Work Windows and Protections.** The Project shall conduct  
23 in-water construction activities within the aquatic work windows established  
24 by the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and  
25 California Department of Fish and Wildlife for delta smelt, southern distinct  
26 population segment (DPS) of green sturgeon, California Central Valley DPS  
27 of steelhead trout, Central Valley fall-run, late fall-run, spring-run, and  
28 Sacramento River winter-run Chinook salmon evolutionary significant units.  
29 To avoid impacts to critical life stages of these species, all in-water Project  
30 construction shall occur between August 1 and October 31 unless an  
31 extension is granted from the agencies listed above. In addition, no activities  
32 that would entrain or impinge fish shall be used.

33 Western pond turtle and giant garter snake may be present in the shoreline work area  
34 and could be struck by equipment or unearthed during excavations. **MM BIO-2, MM**  
35 **BIO-5: Preconstruction Surveys for Western Pond Turtle and Giant Garter Snake,**  
36 **and MM BIO-6: Temporary Exclusion Fencing** would reduce potential impacts to  
37 these special-status reptiles resulting from Project construction.

**MM BIO-5: Preconstruction Surveys for Western Pond Turtle and Giant Garter**

**Snake.** A pre-construction survey for western pond turtle and giant garter snake shall be conducted within 24 hours prior to construction to ensure that individuals are not present in the work area. A copy of the survey report shall be submitted to the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife, and California State Lands Commission staffs prior to Project initiation. The Project area shall be re-inspected if a lapse in construction activity of 2 weeks or greater has occurred. Project activities occurring in potential giant garter snake habitat shall be conducted within the giant garter snake active period of May 1 - October 1. If terrestrial construction is to take place between October 2 and April 30, the USFWS Sacramento Office shall be contacted to see if additional surveys are required to minimize take.

**MM BIO-6: Temporary Exclusion Fencing.**

The construction area shall be delineated with high visibility temporary fencing at least 4 feet in height to prevent encroachment of construction personnel and equipment onto any sensitive areas between the north shoulder of the lower levee road and the grassland and wetland areas north of the road during Project work activities. Such fencing shall be erected to assure no disturbance of wetland habitat that could provide habitat for special-status plants and wildlife. The fencing shall be inspected and maintained daily until completion of the proposed action. The fencing shall be removed only when all construction equipment is removed from the site. Actions within the Project area shall be limited to authorized vehicle and equipment operation on existing roads. No Project activities shall occur outside the delineated Project construction area.

Although Project activities would occur late in the breeding season for Swainson's hawk (beginning August 1), noise and motion associated with work activities in the vicinity of Swainson's hawk nesting areas could disrupt breeding activities. The following MM would reduce impacts to nesting Swainson's hawk resulting from Project construction.

**MM BIO-7: Preconstruction Surveys for Swainson's Hawk.**

For work that begins between March 1 and September 15, a qualified biologist with expertise in Swainson's hawk, shall conduct surveys of potential nesting habitat within 0.5 mile of any earth-moving activities prior to initiation of such activities. Surveys shall be conducted during the recommended survey periods for Swainson's hawk in accordance with the *Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley* (Swainson's Hawk Technical Advisory Committee 2000). The proposed survey methodology shall be submitted to the California Department of Fish and Wildlife (CDFW) for review and approval, with a copy to California State Lands Commission (CSLC) staff, a minimum of 15 days prior to the proposed start of survey activities.

1 If nesting Swainson's hawks are observed, all Project-related activities with  
2 the potential to cause nest abandonment or forced fledging of young within a  
3 minimum of 0.5 mile of nesting hawks shall be avoided between March 1 and  
4 September 15. Pacific Gas and Electric shall be required to obtain a  
5 California Endangered Species Act permit from the CDFW if Project activities  
6 with the potential to cause disturbance to nesting Swainson's hawks are  
7 proposed to be conducted within the 0.5 mile buffer. A copy of the survey  
8 report shall be submitted to the CDFW and CSLC staffs prior to Project  
9 initiation.

10 If construction work begins after September 15 and ends before March 1  
11 (outside of the breeding season), impacts to the Swainson's hawk would be  
12 avoided. Surveys would not be required for work conducted during this part of  
13 the year.

14 Noise from construction activities could disrupt California black rail that may nest in  
15 nearby wetlands. In addition, equipment used in the excavation of the pipelines within  
16 the terrestrial areas of the Project could destroy nests or otherwise disturb nesting birds.  
17 The following MMs would reduce the disturbance to California black rail or nesting birds  
18 to a less than significant level.

19 **MM BIO-8: Preconstruction Survey for California Black Rail.** If work is scheduled  
20 to occur during California black rail breeding season (February 1 through  
21 August 15), a qualified biologist shall conduct a breeding season survey to  
22 identify nesting locations of California black rail. Surveys shall be conducted  
23 between February 1 and August 1 in accordance with accepted protocols. A  
24 copy of the survey report shall be submitted to the California Department of  
25 Fish and Wildlife (CDFW) and California State Lands Commission staffs prior  
26 to Project initiation.

27 If active nests are observed, work within 250 feet of any nest location shall  
28 not occur until August 15, unless a variance is approved by the CDFW and a  
29 biological monitor is present and has the authority to stop work if nesting rails  
30 are disturbed by construction activities.

31 If construction occurs between August 15 and February 1, a preconstruction  
32 survey would not be required.

33 **MM BIO-9: Preconstruction Survey and Minimization Measures for Nesting**  
34 **Birds.** The following measures shall be implemented prior to and during  
35 construction activities to reduce Project-related impacts to active bird nests  
36 and to reduce the potential for construction activities to interrupt breeding and  
37 rearing behaviors of birds:

- 38 • A preconstruction survey shall be conducted to determine the presence of  
39 nesting birds if ground clearing or construction activities are initiated

1 during the breeding season (February 1 through September 15). The  
2 Project site and potential nesting areas within 500 feet of the site shall be  
3 surveyed 14 to 30 days prior to the initiation of construction. Surveys shall  
4 be performed by a qualified biologist or ornithologist to verify the presence  
5 or absence of nesting birds. A copy of the survey report shall be submitted  
6 to the California Department of Fish and Wildlife (CDFW) and California  
7 State Lands Commission staffs prior to Project initiation.

- 8 • Construction shall not occur within a 500 foot buffer surrounding nests of  
9 raptors or a 250 foot buffer surrounding nests of migratory birds.
- 10 • If construction within these buffer areas is required, or if nests must be  
11 removed to allow continuation of construction, then approval must be  
12 obtained from the CDFW.
- 13 • If construction activities begin after September 15 and end before  
14 February 1, impacts to nesting and breeding birds would be avoided, and  
15 surveys would not be required.

16 ***b) Have a substantial adverse effect on any riparian habitat or other sensitive***  
17 ***natural community identified in local or regional plans, policies, regulations, or by***  
18 ***the California Department of Fish and Wildlife or U.S. Fish and Wildlife Service?***

19 **Less than Significant with Mitigation.** The river bank in the south landing Project area  
20 is narrow, covered in rock riprap, and the only riparian cover is blackberry thicket on the  
21 south bank, which would be temporarily impacted by the removal of the warning sign.  
22 The levee on the north landing is vegetated in non-native grassland/ruderal plants. The  
23 sign removal would not result in significant ground-disturbing activities.

24 The foreshore of both landings that are vegetated in brackish water wetland plants  
25 (emergent wetland-marsh) would be not be disturbed by the Project. In addition to  
26 wetlands, the San Joaquin River in the Project area supports a sensitive aquatic  
27 community. The open water of the river is designated as critical habitat for delta smelt  
28 by the USFWS and supports species regulated by NMFS and CDFW, including  
29 salmonids, Sacramento splittail, western pond turtle, and giant garter snake. Potential  
30 impacts to the aquatic community are identified and MMs for those impacts are  
31 recommended above.

32 Implementation of **MM BIO-4** and **MM BIO-5** would reduce impacts to sensitive natural  
33 communities. In addition, **MM WQ-1** would further reduce potential impacts to sensitive  
34 wetland areas.

35 ***c) Have a substantial adverse effect on federally protected wetlands as defined by***  
36 ***Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal***



**pool, coast, etc.) through direct removal, filling hydrological interruption, or other means?**

**Less than Significant with Mitigation.** Activities associated with pipeline decommissioning and removal would create temporary, localized disturbances in upland areas and within the San Joaquin River. Based on the preliminary site visit, the only wetlands identified within the Project area are located along the foreshore of the north and south landings. Approximately 0.16 acre of wetland is located at the north landing and 0.02 acre of wetland is located at the south landing (for a total of 0.18 acre). The cutting and pulling of the submerged pipelines would occur riverward of the wetlands; therefore, it is anticipated that they would not be directly impacted by Project activities. However, the disruption of bottom sediments may temporarily increase water turbidity near the wetland areas.

In addition, a section of the San Joaquin River bottom approximately 12 feet wide by 3,519 feet (0.97 acre) would be impacted by the pipeline removal. Because the area is under the jurisdiction of the USACE under Section 404 of the CWA and Section 10 of the Rivers and Harbors Act of 1899, permits would be required. The proposed Project is likely eligible for Nationwide Permit (NWP) 12, Utility Line Activities. Prior to construction, the USACE would be contacted, the appropriate permit would be obtained, and the permit requirements would be implemented. As impacts to wetlands and waters of the U.S. would be temporary, the Project would result in no adverse impacts and no net loss of wetlands or waters of the U.S.

The Project would be required to adhere to standard industry best management practices (BMPs) during all decommissioning and removal activities. In addition, the implementation of **MM WQ-1** would protect the river, its tributaries, and wetlands from fuels, oils, sediments, and other harmful materials and reduce potential impacts to wetlands and waters of the U.S./State to less than significant.

**d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites?**

**Less than Significant with Mitigation.** The work area in the San Joaquin River is within critical habitat for delta smelt. Potential impacts to delta smelt and other special-status fish species that inhabit or migrate in the San Joaquin River in or near the Project area would be minimized by scheduling activities in the river during the in-water work window. Potential impacts to special-status fish species are discussed above. Implementation of **MM BIO-4** would reduce impacts to less than significant.

**e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance?**

**Less than Significant Impact.** The Project does not conflict with any local policies or ordinances protecting biological resources and no trees would be removed as a result of the Project. All other Sacramento County, Contra Costa County, and City policies protecting biological resources would be followed (refer to Table 3.4-5).

***f) Conflict with provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan?***

**No Impact.** The upland portion of the south landing may be within the Urban Development Area of the planning area for the East Contra Costa County Habitat Conservation Plan/Natural Community Conservation Plan (ECCC HCP/NCCP); however, the requirements of the ECCC HCP/NCCP are generally applicable to development projects that affect open space and wildlife habitat with the planning area. No significant ground-disturbing activities or land use change would occur on the Contra Costa County side of the Project. In addition, the San Joaquin River is outside of the planning area. Therefore, no conflict is anticipated.

#### **3.4.4 Mitigation Summary**

Implementation of the following mitigation measures would reduce the potential for Project-related impacts to biological resources to less than significant.

- MM BIO-1: Worker Environmental Awareness Program.
- MM BIO-2: Biological Compliance Monitoring Program.
- MM BIO-3: Preconstruction Surveys for Special-Status Plant Species.
- MM BIO-4: In-Water Work Windows and Protections.
- MM BIO-5: Preconstruction Surveys for Western Pond Turtle and Giant Garter Snake.
- MM BIO-6: Temporary Exclusion Fencing.
- MM BIO-7: Preconstruction Survey for Swainson's Hawk.
- MM BIO-8: Preconstruction Survey for California Black Rail.
- MM BIO-9: Preconstruction Survey and Minimization Measures for Nesting Birds.
- MM WQ-1: Surface Water Protection.

### 1 3.5 CULTURAL AND PALEONTOLOGICAL

CULTURAL AND PALEONTOLOGICAL - Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Cause a substantial adverse change in the significance of a historical resource as defined in § 15064.5?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to § 15064.5?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Disturb any human remains, including those interred outside of formal cemeteries?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 2 3.5.1 Environmental Setting

3 In December 2014, a Final Archaeological Survey Report for the PG&E Line 114-1 (mile  
4 post [MP] 7.31-8.18) Line 114 (MP 7.32-8.18), and Line SP4Z (MP 7.31-8.18)  
5 Retirement Project (Far Western 2014), was completed for PG&E by Sharon A.  
6 Waechter and Kim Carpenter of Far West Anthropological Research Group, Inc. (Far  
7 Western 2014). The report detailed the cultural resource identification efforts and the  
8 potential for cultural and historic resources (including shipwrecks) in the San Joaquin  
9 River Project area. The Project area for the report included all vertical and horizontal  
10 impacts associated with the Project as well as construction access and staging areas.  
11 Identification efforts included background research, records searches, Native American  
12 outreach, field survey and a buried site sensitivity analysis. The following setting  
13 information has been summarized from that report. While there are cultural resources  
14 within the Project area (a levee and the pipelines), none of these resources is  
15 considered significant; therefore, there would neither be an impact nor a significant  
16 adverse change to a historical resource.

17 The three deactivated submarine pipeline crossings, cross the Sherman Island levee  
18 and the San Joaquin River, then continue south into a subterranean valve pit at the  
19 Lauritzen Yacht Harbor. There would be no onshore excavation on the Contra Costa  
20 County side of the line, as the lines on that side are contained in a valve pit.

##### 21 3.5.1.1 Ethnography and History

22 The local archaeological record can be divided into the pre-historic, ethnographic, and  
23 historic areas, which include the Lower Archaic Period (10,000-6,000 Before Present  
24 [BP]), the early Middle Archaic Period (7,000-4,500 BP), the terminal Middle

1 Archaic/Early Period (4,500-2,500 BP), the Upper Archaic/Middle Period (2,500-1,300  
2 BP), the Emergent/Late Period (1,300-200 BP), and the overlapping Ethnographic and  
3 Historic Periods (approximately 200-100 BP).

4 In the period shortly before the arrival of non-native explorers and missionaries, the San  
5 Joaquin River Delta region was home to Miwok and Patwin peoples. Prehistoric  
6 settlements tended to be located near the edge of the San Joaquin River Delta,  
7 principally on naturally occurring high spots not subject to annual flooding. The Project  
8 area, including northern Contra Costa County and Sherman Island is ascribed to the  
9 Bay Miwok between the Julpunes (south bank) and Ompins (north bank).

10 Current knowledge of the native peoples of this area has been gained from the diaries  
11 of early Spanish explorers and priests who journeyed through these areas in the late  
12 18th and early 19th centuries. This included the Pedro Fages expedition in 1772, which  
13 traveled through Contra Costa County in search of a land route to Point Reyes. The  
14 expedition camped near the San Joaquin River in the vicinity of Antioch in March 1772.  
15 In 1776, Juan Bautista de Anza and Pedro Font, a Franciscan priest, led another  
16 expedition through the Antioch area, camping in the present day Antioch Bridge area in  
17 the spring of 1776, before continuing on southeastwardly past present-day Oakley.

18 With the introduction of the Spanish missions, secularization, and disease, the  
19 traditional lives of native people living in the Delta region were decimated by the 1840s.  
20 During the 1850s, American settlers spread further through the state, and the Delta  
21 region's rivers and sloughs served as important transportation corridors between San  
22 Francisco and the Central Valley.

23 The development of the Sacramento/San Joaquin Delta began in earnest when the  
24 Swamp and Overflow Land Act conveyed ownership of swamp and overflow land,  
25 including Delta marshes, from the Federal government to the State of California.  
26 Reclamation efforts on Sherman Island began shortly thereafter. By 1859, local property  
27 owners on Sherman Island had constructed small levees some 3 to 4 feet tall along the  
28 banks of the Sacramento River and Mayberry Slough. During the 1870s, the area was  
29 characterized by farms that occupied marshland as well as drier uplands and small  
30 landings sprung up along the Delta to serve these farms. Despite these efforts, the  
31 Delta islands suffered repeated floods. Flooding occurred in at least some parts of the  
32 Delta almost every year from 1900 to 1910. To this day, seepage and settlement have  
33 been ongoing issues, requiring constant levee improvements.

34 Line 114, Line 114-1, and Line SP4Z were constructed in 1942 as part of PG&E's  
35 involvement in a coordinated construction program carried out in tandem with Standard  
36 Oil to facilitate oil transmission as part of the war effort during World War II.

3.5.1.2 Records Searches and Field Surveys

The 2014 Final Archaeological Survey Report (Far Western 2014) included records searches and literature reviews, documented Native American outreach, an assessment of the potential for buried archaeological deposits, and a field survey. The documents reviewed for these searches included in-house files and atlases of known resources and previous studies within a 0.25 mile radius of the Project corridor, the California Inventory of Historic Resources (for Antioch and Oakley), and historical General Land Office plat maps (1862, 1876). In addition, historical archaeologists from PAR Environmental Services consulted multiple sources for information about shipwrecks within and adjacent to the records search, including the CSLC Shipwreck Database for Sacramento and Contra Costa Counties.

The archival research, sensitivity assessment, and field survey for the Project identified one previously evaluated cultural resource within the Project area within a portion of the Sherman Island Levee. The levee was evaluated and determined to be ineligible for the National Register of Historic Places and the California Register of Historical Resources. The three gas pipelines associated with the Project (Line 114, Line 114-1, and Line SP4Z) were constructed in 1942. Due to the construction date, the pipelines could be considered historic-era features; however, under federal law these features are exempt from environmental consideration (67 Code of Federal Regulations [CFR] 16364-16365). Because consideration and treatment of significant historical resources under State law are similar to that of Federal law, the Federal exemption is interpreted to apply in the case of PG&E gas transmission lines in California and may be used in compliance with CEQA as well as Section 106 (36 CFR 800). No other cultural or historic resources were identified within the Project area, and based on map research and buried site sensitivity analysis the potential to encounter previously unidentified resources is considered low.

**3.5.2 Regulatory Setting**

3.5.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.5-1.

3.5.2.2 Local

There are no local goals or policies that are applicable to the Project site.

**Table 3.5-1. Laws, Regulations, and Policies (Cultural Resources)**

U.S.	Archaeological and Historic Preservation Act (AHPA)	The AHPA provides for the preservation of historical and archaeological data that might be irreparably lost or destroyed as a result of 1) flooding, the building of access roads, the erection of workmen's communities, the relocation of railroads and highways, and other alterations of terrain caused by the construction of a dam by an agency of the U.S. or by any private person or corporation holding a license issued by any such agency; or 2) any alteration of the terrain caused as a result of a Federal construction project or federally licensed project, activity, or program. This Act requires Federal agencies to notify the Secretary of the Interior when they find that any Federally permitted activity or program may cause irreparable loss or destruction of significant scientific, prehistoric, historical, or archaeological data. The AHPA built upon the national policy, set out in the Historic Sites Act of 1935, "...to provide for the preservation of historic American sites, buildings, objects, and antiquities of national significance...."
U.S.	National Historic Preservation Act (NHPA) (16 USC 470 et seq.)	This applies only to Federal undertakings. Archaeological resources are protected through the NHPA, as amended, and it's implementing regulation, Protection of Historic Properties (36 CFR 800), the AHPA, and the Archaeological Resources Protection Act (ARPA). This Act presents a general policy of supporting and encouraging the preservation of prehistoric and historic resources for present and future generations by directing Federal agencies to assume responsibility for considering the historic resources in their activities. The State implements the NHPA through its statewide comprehensive cultural resource surveys and preservation programs. The California Office of Historic Preservation (OHP), within the California Department of Parks and Recreation, implements the policies of the NHPA on a statewide level and advises Federal agencies regarding potential effects on historic properties. The OHP also maintains the California Historic Resources Inventory. The State Historic Preservation Officer (SHPO) is an appointed official who implements historic preservation programs within the State's jurisdictions, including commenting on Federal undertakings.
U.S.	Other	<ul style="list-style-type: none"> <li>• Executive Order 13158 requires Federal agencies to 1) identify actions that affect natural or cultural resources that are within a MPA; and 2) in taking such actions, to avoid harm to the natural and cultural resources that are protected by a MPA.</li> <li>• NPS Abandoned Shipwreck Act of 1987 (43 USC 2101-2106). Under this Act, states have the responsibility for management of living and nonliving resources in State waters and submerged lands, including certain abandoned shipwrecks. The NPS has issued guidelines that are intended to: maximize the enhancement of cultural resources; foster a partnership among sport divers, fishermen, archeologists, sailors, and other interests to manage shipwreck resources of the states and the U.S.; facilitate access and utilization by recreational interests; and recognize the interests of individuals and groups engaged in shipwreck discovery and salvage. Specific provisions of the Act's guidelines include procedures for locating and identifying shipwrecks, methods for determining which shipwrecks are historic, and preservation and long-term management of historic shipwrecks.</li> <li>• Federal Law 67 CFR 16364-16365 - Exemption regarding historic preservation review process for projects involving historic natural gas pipelines. Provides an exemption regarding historic preservation/Section 106 review for projects involving historic natural gas pipelines. This exemption frees federal agencies from considering their effects on historic natural gas pipelines except in the case of specific types of abandonments/retirements. An agency is only required to consider effects to</li> </ul>

**Table 3.5-1. Laws, Regulations, and Policies (Cultural Resources)**

		<p>historic natural gas pipelines if it is being abandoned pursuant to Section 7(b) of the Natural Gas Act. Abandonments wherein the lead federal agency is not required to take into account their effects on historic gas pipelines include minor abandonments. Such abandonments, by their nature, present much more limited, if not negligible, impacts on the pipeline as a whole. Because consideration and treatment of significant historical resources under state law is similar to that of federal law, the federal exemption is interpreted to apply in the case of PG&amp;E gas transmission lines in California and may be used in compliance with CEQA as well as Section 106.</p>
CA	CEQA (Pub. Resources Code, § 21000 et seq.)	<p>As the CEQA lead agency, the CSLC is responsible for complying with all provisions of the CEQA and State CEQA Guidelines that relate to “historical resources.” A historical resource includes: 1) a resource listed in, or eligible for listing in, the California Register of Historic Resources (CRHR); 2) a resource included in a local register of historical or identified as significant in an historical resource surveys; and (3) any resource that a lead agency determines to be historically significant for the purposes of CEQA, when supported by substantial evidence in light of the whole record. The CRHR was created to identify resources deemed worthy of preservation on a State level and was modeled closely after the National Register. The criteria, which are nearly identical to those of the National Register but focus on resources of statewide significance (see State CEQA Guidelines, § 15064.5, subd. (a)(3)), are defined as any resource that meets any of the following criteria: 1) Is associated with events that have made a significant contribution to the broad patterns of California’s history and cultural heritage; 2) Is associated with lives of persons important in our past; 3) Embodies the distinctive characteristics of a type, period, region, or method of construction, or represents the work of an important creative individual, or possesses high artistic values; or 4) Has yielded, or may be likely to yield, information important in prehistory or history. Properties listed, or formally designated as eligible for listing, on the National Register are automatically listed on the CRHR, as are certain State Landmarks and Points of Interest. A lead agency is not precluded from determining that the resource may be an historical resource as defined in Public Resources Code sections 5020.1, subdivision (j), or 5024.1 (State CEQA Guidelines, § 15064.5, subd. (a)(4)).</p>
CA	Public Resources Code section 5097.98	<p>States protocol for notifying the most likely descendent from the deceased if human remains are determined to be Native American in origin. It also provides mandated measures for appropriate treatment and disposition of exhumed remains.</p>
CA	Health and Safety Code section 7050.5	<p>This code states that if human remains are exposed during construction, no further disturbance shall occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to Public Resources Code section 5097.998. The Coroner has 24 hours to notify the Native American Heritage Commission (NAHC) if the remains are determined to be of Native American descent. The NAHC will contact most likely descendants, who may recommend how to proceed.</p>



1    **3.5.3 Impact Analysis**

2    ***a) Cause a substantial adverse change in the significance of a historical resource***  
3    ***as defined in § 15064.5?***

4    **Less than Significant Impact.** The three gas pipelines were constructed in 1942 and  
5    are thus historical in age. However, Federal law (67 CFR 16364-16365) provides an  
6    exemption regarding historic preservation/Section 106 review for projects involving  
7    historic natural gas pipelines. This exemption frees Federal agencies from considering  
8    their effects on historic natural gas pipelines except in the case of specific types of  
9    abandonments/retirements. Because consideration and treatment of significant historic  
10    resources under State law is similar to that of Federal law, the Federal exemption is  
11    interpreted to apply in the case of PG&E gas transmission lines in California and may  
12    be used in compliance with CEQA as well as Section 106 (36 CFR 800) in the case of  
13    the three retired pipeline segments.

14    Only one other cultural resource was identified in the Project area during the 2014  
15    study: a portion of the Sherman Island Levee (P-34-000553) (Far Western 2014). The  
16    levee was evaluated and determined ineligible for the National Register of Historic  
17    Places and the California Register of Historical Resources. Furthermore, an  
18    assessment of the potential for buried resources identified no areas of high sensitivity in  
19    the Project area (Far Western 2014). Based on these findings, no historic resources  
20    would be impacted as a result of the Project. Impacts associated with Project activities  
21    would be less than significant.

22    ***b) Cause a substantial adverse change in the significance of an archaeological***  
23    ***resource pursuant to § 15064.5?***

24    **Less than Significant with Mitigation.** According to the Final Archaeological Survey  
25    Report (Far Western 2014), no known archaeologically significant resources are located  
26    within or adjacent to the Project site. The Project would not increase the potential for  
27    disruption of a site or increase the potential for vandalism or trespassing. As a result,  
28    impacts would be less than significant. However, in the event that previously  
29    unidentified cultural resources are discovered during pipeline removal, the standard  
30    archaeological discovery condition (**MM CUL-1: Discovery of Previously Unknown**  
31    **Cultural Resources**) would mitigate impacts to cultural resources to less than  
32    significant levels.

33        **MM CUL-1: Discovery of Previously Unknown Cultural Resources.** Should  
34        additional cultural materials be uncovered during Project implementation,  
35        Project activities shall cease within 100 feet of the find and a Cultural  
36        Resources Specialist and California State Lands Commission (CSLC) staff  
37        shall be contacted immediately. The location of any such finds must be kept  
38        confidential and measures should be taken to ensure that the area is secured

to minimize site disturbance and potential vandalism. Additional measures to meet these requirements, after a qualified Cultural Resources Specialist has been notified, include assessment of the nature and extent of the resource, including its possible eligibility for listing in the National Register of Historic Places, and subsequent recordation and notification of relevant parties based upon the results of the assessment. Title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the CSLC must be approved by the Commission.

***c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature?***

**No Impact.** The majority of pipeline removal would occur offshore in previously disturbed river sediments. In addition, portions of the offshore pipelines are exposed on the riverbed and suspended over the Stockton Deep Water Channel near the north landing of the crossing (offshore Sherman Island) with span lengths up to approximately 125 feet in length and elevated as much as approximately 6 feet above the riverbed and thus would not require disruption of river sediments for removal. The onshore portion of the Project site is located within an area frequently flooded and characterized by a levee crossing. Thus, unique paleontological or geologic resources would not be encountered or otherwise disturbed during the proposed Project activities. No impact would result.

***d) Disturb any human remains, including those interred outside of formal cemeteries?***

**Less than Significant with Mitigation.** No known cemeteries or burial sites have been identified within the Project areas. The Project would not increase the potential for disruption of a burial site. As a result, impacts would be less than significant. However, in the event that previously unidentified human remains are discovered State Health and Safety Code section 7050.5 requires that no further disturbance shall occur until the County Coroner has made the necessary findings as to the origin and disposition pursuant to Public Resources Code section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (**MM CUL-2: Unanticipated Discovery of Human Remains**). With the incorporation of this measure, impacts would be less than significant.

**MM CUL-2: Unanticipated Discovery of Human Remains.** If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. Work shall stop within 100 feet of the discovery and a qualified Cultural Resources Specialist must be contacted immediately, who shall

1 consult with the County Coroner. In addition, California State Lands  
2 Commission staff shall be notified. If human remains are of Native American  
3 origin, the County Coroner shall notify the Native American Heritage  
4 Commission within 24 hours of this determination and a Most Likely  
5 Descendent shall be identified. No work is to proceed in the discovery area  
6 until consultation is complete and procedures to avoid and/or recover the  
7 remains have been implemented.

#### 8 **3.5.4 Mitigation Summary**

9 Implementation of the following MMs would reduce the potential for Project-related  
10 impacts to cultural and paleontological resources to less than significant.

- 11 • MM CUL-1: Discovery of Previously Unknown Cultural Resources.
- 12 • MM CUL-2: Unanticipated Discovery of Human Remains.

### 1 3.6 GEOLOGY AND SOILS

<b>GEOLOGY AND SOILS - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:				
i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
ii) Strong seismic ground shaking?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iii) Seismic-related ground failure, including liquefaction?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
iv) Landslides?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in substantial soil erosion or the loss of topsoil?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the Project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.6.1 Environmental Setting

3 The following setting is based primarily upon the geologic information included within a  
4 desktop study performed by Fugro West, Inc. (2006) (see Appendix C).

##### 5 3.6.1.1 Regional Setting

6 The study area lies along the western margin of the Central Valley in the Great Valley  
7 geomorphic province bounded to the west by the northwest-trending mountain ranges  
8 and valleys of the Coast Ranges Province. Together, the Sacramento and San Joaquin

1 Rivers drain most of the Central Valley, emptying westward into the upper part of San  
2 Francisco Bay through the Sacramento - San Joaquin Delta and the Carquinez Strait.

3 The western margin of the Great Valley, the Coast Ranges-Great Valley geomorphic  
4 boundary, is underlain by a system of folds and seismically active thrust faults. This  
5 tectonic boundary separates the relatively undeformed sediment-fill of the Great Valley  
6 from the highly deformed rocks of the Coast Ranges. In the study area, the basement  
7 rocks of the Great Valley Sequence are overlain by younger fluvial (river-deposited) and  
8 eolian (wind-deposited) sediments that are hundreds of feet thick. These sediments are  
9 primarily layered clays, silts, sands, and gravels, derived from the Coast Ranges and  
10 Sierra Nevada far to the east, and deposited in alluvial fans, flood plains, flood basins,  
11 and lake and marsh environments.

12 The nearest earthquake faults to the Project area are the Concord-Green Valley Fault,  
13 which is located approximately 15 miles west of the Project site, and the Greenville  
14 Fault, which is located approximately 12 miles southwest of the Project site.

#### 15 3.6.1.2 Site-Specific Setting

#### 16 **Onshore**

17 Holocene-age peat and muddy peat (Qhpm) deposited in tidal wetlands comprise the  
18 surficial geologic units on Sherman Island north of the San Joaquin River. These  
19 deposits are the time equivalents of the bay mud. Eolian dune deposits comprise the  
20 fine grained, very well-sorted, well-drained sand that are the predominate geologic unit  
21 (Qds) south of the San Joaquin River. Within the Lauritzen Yacht Harbor area, modern  
22 artificial fill deposits (af), comprise the levee and improved shoreline soils, and are often  
23 derived from dredge spoils from the surrounding rivers and marshes. Sediments on the  
24 modern river bed are laterally discontinuous deposits of predominately sand, with clay,  
25 silt, and gravel that locally may be reworked by variable flow and sediment load  
26 conditions.

27 The urban and wetland soils at the onshore portion of the Project site(s) are mapped as  
28 highly or very highly susceptible to liquefaction. The Project site has been assigned a  
29 ground shaking rating of 50 to 70 (very strong shaking) by the Association of Bay Area  
30 Governments based on information compiled by the U.S. Geological Survey, California  
31 Geological Survey, and others (CSLC 2013).

#### 32 **Offshore**

33 Divers observed predominately sandy river bed sediments, with occasional clay and  
34 mud (mixed silt and clay), along the pipeline routes. Diver observations of mud were  
35 limited to the river bed adjacent to the northern river margin within the Project corridor.

1 The river bed sediments gradually transitioned to fine sand and sand toward the center  
2 of the channel. Mixed sand and clay were noted along the Line 114, Line 114-1, and  
3 Line SP4Z pipeline route between approximately 540 and 600 feet from the northern  
4 river margin, while the river bed along the rest of the route was described as "sandy."

#### 5 Riverbed Morphology

6 Throughout the Project area, well-formed, mobile sediment waves and longitudinal bars  
7 are observed on the river bed. Sand waves with amplitudes of 1 to 4 feet were observed  
8 by divers and visible in the bathymetry and side-scan sonar survey data. The wave  
9 crests are oriented generally transverse to the direction of downstream flow. Sand wave  
10 wavelengths are variable across the river channel, but are generally between 20 and 60  
11 feet.

#### 12 Observed Scour

13 An elongate depression (defined by the 40 feet contour) extends from approximately 25  
14 feet west of the middle PG&E pipeline group (Line 114, Line 114-1, and Line SP4Z)  
15 downstream for about 1,000 feet, and measures about 600 feet wide at the widest point  
16 under the bridge structure. The water depths in the depression around the bridge piers  
17 are up to 14 feet deeper than the average ship channel depths of about 36 feet.  
18 Notably, the bridge piers on either side of the deep water ship channel are larger than  
19 the piers under the rest of the over-water bridge sections. Scour pits observed around  
20 the smaller bridge piers are roughly 100-foot-diameter depressions that are 5 to 10 feet  
21 deeper than the surrounding river bed.

22 Along the pipeline corridor route, survey bathymetric data indicate an elongate, steep-  
23 sided depression where water depths are 40 feet or deeper along the northern river  
24 margin. The depression measures 65 feet wide and 85 feet long, and is oriented parallel  
25 to the river channel axis. The depression is nearly continuous with the larger depression  
26 observed under the Antioch bridge to the west. Divers reported sandy bottom sediments  
27 in the area. A second, shallower (4 foot) depression is located closer to the river bank  
28 and has a maximum water depth of 30 feet.

29 Exposed and suspended pipelines were observed by divers north of the deep water  
30 ship channel. The three pipelines had various lengths of exposure and suspension  
31 along their respective routes, with observed spans between 55 feet and 75 feet long  
32 and suspended heights along the river bottom of eight feet. The areas of exposure and  
33 spanning were located by divers as between 366 and 666 feet from the pipeline  
34 crossing marker located on the northern San Joaquin River shoreline, limits generally  
35 confirmed with underwater survey data acquired by Fugro (2006).

## 1 3.6.2 Regulatory Setting

### 2 3.6.2.1 Federal and State

3 Federal and State laws and regulations pertaining to this issue area and relevant to the  
4 Project are identified in Table 3.6-1.

**Table 3.6-1. Laws, Regulations, and Policies (Geology and Soils)**

CA	Alquist-Priolo Earthquake Fault Zoning Act (Pub. Resources Code, §§ 2621-2630)	This Act requires that "sufficiently active" and "well-defined" earthquake fault zones be delineated by the State Geologist and prohibits locating structures for human occupancy across the trace of an active fault.
	California Building Code (CBC) (Cal. Code Regs., tit. 23)	The CBC contains requirements related to excavation, grading, and construction of pipelines alongside existing structures. A grading permit is required if more than 50 cubic yards of soil are moved. Sections 3301.2 and 3301.3 contain provisions requiring protection of adjacent properties during excavations and require a 10-day written notice and access agreements with adjacent property owners.
	California Seismic Hazards Mapping Act (Pub. Resources Code, § 2690 and following as Division 2, Chapter 7.8)	This Act and the Seismic Hazards Mapping Regulations (Cal. Code Regs., tit. 14, Div. 2, Ch. 8, Art. 10) are designed to protect the public from the effects of strong ground shaking, liquefaction, landslides, other ground failures, or other hazards caused by earthquakes. The Act requires that site-specific geotechnical investigations be conducted identifying the hazard and formulating mitigation measures prior to permitting most developments designed for human occupancy. Special Publication 117, Guidelines for Evaluating and Mitigating Seismic Hazards in California (California Geological Survey 2008), constitutes guidelines for evaluating seismic hazards other than surface fault rupture and for recommending mitigation measures as required by section 2695, subdivision (a).

### 5 3.6.2.2 Local

#### 6 Sacramento County

7 The Safety Element of the Sacramento County General Plan 2005-2030 (County of  
8 Sacramento 2011) includes goals and policies to address seismic hazards within the  
9 County. The primary goal is to minimize the loss of life, injury, and property damage due  
10 to seismic and geological hazards. There are no specific policies that are applicable to  
11 the proposed Project.

#### 12 Contra Costa County

13 The Safety Element of the Contra Costa County General Plan 2005-2020 (County of  
14 Contra Costa 2010) includes goals and policies to address seismic hazards within the  
15 County. There are no seismic hazard goals or policies that are applicable to the Project  
16 site.



**City of Oakley**

The City's 2020 General Plan Health and Safety Element identifies the goals and policies related to seismic and other earth movement hazards. The primary goal (8.1) is to protect human life, reduce the potential for serious injuries, and minimize the risk of property losses from the effects of earthquakes, including fault rupture, ground shaking, and liquefaction-induced ground failure. There are no policies applicable to the proposed Project.

**3.6.3 Impact Analysis**

***a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving:***

***(i) Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42.***

**No Impact.** The Project site is not located within or adjacent to a delineated Alquist-Priolo Earthquake Fault Zone. The nearest earthquake fault is the Greenville Fault, which is located 12 miles southwest of the Project site. However, no structures are proposed as part of the Project that could be affected by earthquake activity. No impact would result.

***(ii) Strong seismic ground shaking?***

**No Impact.** Although the Project site is located in an area that is subject to strong seismic ground shaking, the proposed removal of the previously abandoned pipelines and valve box would not create substantial adverse effects to people or structures related to ground shaking. No impact would result.

***(iii) Seismic-related ground failure, including liquefaction?***

**No Impact.** Although the Project site is located in an area that is moderately to very highly susceptible to liquefaction, removal of the previously abandoned pipelines and valve box would not create substantial ground-failure or liquefaction effects to people or structures. No impact would result.

***(iv) Landslides?***

**No Impact.** The Project site(s), including the proposed shore base at Mare Island, are flat and not subject to landslides.

1    ***b) Result in substantial soil erosion or the loss of topsoil?***

2    **Less Than Significant Impact.** During removal and abandonment of the pipelines and  
3    northern valve box; soils within the levee and leading to the valve box at Sherman  
4    Island would be temporarily disturbed. However, upon completion of removal activities,  
5    all soils would be backfilled with native soils and the Project site would be restored in  
6    accordance with CVFPB/RD 341 standards. No significant impact would result.  
7    Additional information regarding potential soil erosion is discussed in Section 3.9,  
8    Hydrology and Water Quality.

9    ***c) Be located on a geologic unit or soil that is unstable, or that would become***  
10   ***unstable as a result of the project, and potentially result in on- or off-site***  
11   ***landslide, lateral spreading, subsidence, liquefaction or collapse?***

12   **No Impact.** The Project would remove portions of unused and previously abandoned  
13   pipelines from the Lauritzen Yacht Harbor valve box across the San Joaquin River  
14   through the Sherman Island levee to a valve box on the northern bank of Sherman  
15   Island. Although portions of this area are subject to liquefaction, no structures would be  
16   constructed on a geologic unit or soil that is unstable or would become unstable. No  
17   impact would result.

18   ***d) Be located on expansive soil, as defined in Table 18-1-B of the Uniform***  
19   ***Building Code (1994), creating substantial risks to life or property?***

20   **No Impact.** The Project would remove portions of inactive pipelines from the Lauritzen  
21   Yacht Harbor valve box across the San Joaquin River through the Sherman Island  
22   levee to a valve box on the northern bank of Sherman Island. No structures would be  
23   constructed that would create a substantial risk to life or property if they failed due to the  
24   presence of expansive soils. No impact would result.

25   ***e) Have soils incapable of adequately supporting the use of septic tanks or***  
26   ***alternative waste water disposal systems where sewers are not available for the***  
27   ***disposal of waste water?***

28   **No Impact.** No septic tank or wastewater disposal systems are proposed.

29   **3.6.4 Mitigation Summary**

30   The Project would not result in significant impacts to geology; therefore, no mitigation is  
31   required.

### 1 3.7 GREENHOUSE GAS EMISSIONS

GREENHOUSE GAS EMISSIONS -Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

#### 2 3.7.1 Environmental Setting

3 Greenhouse Gases (GHGs), are defined as any gas that absorbs infrared radiation in  
 4 the atmosphere, include, but are not limited to, water vapor, CO<sub>2</sub>, methane (CH<sub>4</sub>),  
 5 nitrous oxide (N<sub>2</sub>O), and fluorocarbons. These GHGs lead to the trapping and buildup of  
 6 heat in the atmosphere near the earth's surface, commonly known as the Greenhouse  
 7 Effect. The atmosphere and the oceans are reaching their capacity to absorb CO<sub>2</sub> and  
 8 other GHGs without significantly changing the earth's climate. Unlike criteria pollutants  
 9 and TACs, which are pollutants of regional and local concern; GHGs and climate  
 10 change are a local, regional, and global issue.

11 As stated on California's Climate Change Portal ([www.climatechange.ca.gov](http://www.climatechange.ca.gov)):

12 *Climate change is expected to have significant, widespread impacts on California's*  
 13 *economy and environment. California's unique and valuable natural treasures -*  
 14 *hundreds of miles of coastline, high value forestry and agriculture, snow-melt fed*  
 15 *fresh water supply, vast snow and water fueled recreational opportunities, as well as*  
 16 *other natural wonders - are especially at risk.*

17 In addition, the Intergovernmental Panel on Climate Change (IPCC), in the section of its  
 18 Fifth Assessment Report by Working Group II, Climate Change 2014: Impacts,  
 19 Adaptation, and Vulnerability (IPCC 2014) specific to North America (Chapter 26),  
 20 stated in part:

21 *North American ecosystems are under increasing stress from rising temperatures,*  
 22 *CO<sub>2</sub> concentrations, and sea-levels, and are particularly vulnerable to climate*  
 23 *extremes (very high confidence). Climate stresses occur alongside other*  
 24 *anthropogenic influences on ecosystems, including land-use changes, non-native*  
 25 *species, and pollution, and in many cases would exacerbate these pressures (very*  
 26 *high confidence). [26.4.1; 26.4.3]. Evidence since the Fourth Assessment Report*

(IPCC 2014) highlights increased ecosystem vulnerability to multiple and interacting climate stresses in forest ecosystems, through wildfire activity, regional drought, high temperatures, and infestations (medium confidence) [26.4.2.1; Box 26-2]; and in coastal zones due to increasing temperatures, ocean acidification, coral reef bleaching, increased sediment load in run-off, sea level rise, storms, and storm surges (high confidence) [26.4.3.1].

California has already been affected by climate change: sea level rise, increased average temperatures, more extreme hot days and increased heat waves, fewer shifts in the water cycle, and increased frequency and intensity of wildfires. Higher sea levels can result in increased coastal erosion, more frequent flooding from storm surges, and increased property damage. Additionally, loss of wetland habitats, weakened ecosystem services and reduced waterfront public access options is also anticipated. Projected climate change impacts on California include: decreases in the water quality of surface water bodies, groundwater, and coastal waters; sea level rise and increased coastal erosion, increased flooding and fire events; decline in aquatic ecosystem health; lowered profitability for water-intensive crops; changes in species and habitat distribution; and impacts to fisheries (California Regional Assessment Group 2002). These effects are expected to increase with rising GHG levels in the atmosphere.

According to the IPCC, the concentration of CO<sub>2</sub>, the primary GHG, has increased from approximately 280 ppm in pre-industrial times to well over 380 ppm. The current rate of increase in CO<sub>2</sub> concentrations is about 1.9 ppm/year; present CO<sub>2</sub> concentrations are higher than any time in at least the last 650,000 years. To meet the statewide GHG reduction target for 2020, requiring California to reduce its total statewide GHG emissions to the level they were in 1990 (Health & Saf. Code, § 38550), and the 2050 goal of 80 percent below 1990 levels (Executive Order S-3-05), not only must projects contribute to slowing the increase in GHG emissions, but, ultimately, projects should contribute to reducing the State's output of GHGs. To reach California's GHG reduction targets, it is estimated that per capita emissions would need to be reduced by slightly less than 5 percent per year during the 2020 to 2030 period, with continued reductions required through midcentury.

In its 2008 "Report on Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act," the California Air Pollution Control Officers Association (CAPCOA 2008) stated:

*[w]hile it may be true that many GHG sources are individually too small to make any noticeable difference to climate change, it is also true that the countless small sources around the globe combine to produce a very substantial portion of total GHG emissions.*

The quantification of GHG emissions associated with a project can be complex and relies on a number of assumptions. GHG emissions are generally classified as direct and indirect. Direct emissions are associated with the production of GHG emissions from the immediate Project area. These include the combustion of natural gas as well as the combustion of fuel in engines and construction vehicles used on the site. In addition, direct emissions include fugitive emissions from valves and connections of equipment used during implementation or throughout the project life. Indirect emissions include the emissions from vehicles (both gasoline and diesel) delivering materials and equipment to the site (e.g., haul trucks).

For the purposes of this assessment, the Project site is located within the jurisdictions of the BAAQMD and SMAQMD.

### 3.7.2 Regulatory Setting

#### 3.7.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.7-1.

**Table 3.7-1. Laws, Regulations, and Policies (GHGs)**

U.S.	Federal Clean Air Act (FCAA) (42 USC 7401 et seq.)	In 2007, the U.S. Supreme Court ruled that carbon dioxide (CO <sub>2</sub> ) is an air pollutant as defined under the FCAA, and that the USEPA has authority to regulate GHG emissions.
CA	California Global Warming Solutions Act of 2006 (AB 32)	Under AB 32, CARB is responsible for monitoring and reducing GHG emissions in the State and for establishing a statewide GHG emissions cap for 2020 that is based on 1990 emissions levels. CARB (2009) has adopted the AB 32 Climate Change Scoping Plan (Scoping Plan), which contains the main strategies for California to implement to reduce CO <sub>2</sub> equivalent (CO <sub>2</sub> e) emissions by 169 million metric tons (MMT) from the State's projected 2020 emissions level of 596 MMT CO <sub>2</sub> e under a business-as-usual scenario. The Scoping Plan breaks down the amount of GHG emissions reductions the CARB recommends for each emissions sector of the State's GHG inventory, but does not directly discuss GHG emissions generated by construction activities.
CA	Senate Bills (SB) 97 and 375	Pursuant to SB 97, the State Office of Planning and Research prepared and the Natural Resources Agency adopted amendments to the State CEQA Guidelines for the feasible mitigation of GHG emissions or the effects of GHG emissions. Effective as of March 2010, the revisions to the CEQA Environmental Checklist Form (Appendix G) and the Energy Conservation Appendix (Appendix F) provide a framework to address global climate change impacts in the CEQA process; State CEQA Guidelines section 15064.4 was also added to provide an approach to assessing impacts from GHGs.  SB 375 (effective January 1, 2009) requires CARB to develop regional reduction targets for GHG emissions, and prompted the creation of regional land use and transportation plans to reduce emissions from passenger vehicle use throughout the State. The targets apply to the regions covered by California's 18

**Table 3.7-1. Laws, Regulations, and Policies (GHGs)**

		metropolitan planning organizations (MPOs). The 18 MPOs must develop regional land use and transportation plans and demonstrate an ability to attain the proposed reduction targets by 2020 and 2035.
CA	Executive Orders	Executive Order B-30-15 (Governor Brown, April 2015) established a new interim statewide GHG emission reduction target to reduce GHG emissions to 40 percent below 1990 levels by 2030 in order to ensure California meets its target of reducing GHG emissions to 80 percent below 1990 levels by 2050. It additionally directed all state agencies with jurisdiction over sources of GHG emissions to implement measures, pursuant to statutory authority, to achieve GHG emissions reductions to meet the 2030 and 2050 targets.
		Executive Order S-01-07 (Governor Schwarzenegger, January 2007) established a low carbon fuel standard for California, and directed the carbon intensity of California's transportations fuels to be reduced by at least 10 percent by 2020.
		Executive Order S-3-05 (Governor Schwarzenegger, June 2005) directed the state to reduce GHG emissions to 2000 levels by 2010, to 1990 levels by 2020, and to 80 percent below 1990 level by 2050.

### 1 3.7.2.2 Local

#### 2 **Sacramento Metropolitan Air Quality Management District (SMAQMD)**

3 On October 23, 2014, the SMAQMD adopted a recommended GHG threshold of  
 4 significance meeting the requirements of section 15064.7 of the State CEQA Guidelines  
 5 to address the issues of growth and climate change. The SMAQMD has implemented a  
 6 recommended GHG threshold of significance for the construction phase of a project at  
 7 1,100 metric tons (MT) of CO<sub>2</sub> equivalent per year.

#### 8 **Bay Area Air Quality Management District (BAAQMD)**

9 On June 2, 2010, the BAAQMD's Board of Directors unanimously adopted thresholds of  
 10 significance to assist in the review of projects under CEQA. These thresholds are  
 11 designed to establish the level at which the District believed air pollution emissions  
 12 would cause significant environmental impacts under CEQA and are included in the  
 13 District's updated CEQA Guidelines (BAAQMD 2012).

### 14 **3.7.3 Impact Analysis**

15 ***a) Generate greenhouse gas emissions, either directly or indirectly, that may have***  
 16 ***a significant impact on the environment?***

17 **Less than Significant Impact.** The decommissioning activities would result in GHG  
 18 emissions (primarily engine exhaust) from marine vessels and onboard equipment,  
 19 heavy duty construction equipment, transfer dump trucks, cement trucks, and worker  
 20 vehicles. Operation of offshore vessels and equipment listed in Section 2.4, Equipment

and Personnel Requirements, would result in GHG emissions of approximately 260 MTCO<sub>2</sub>e (metric tons of CO<sub>2</sub> equivalent) over the duration of the Project. Estimated emissions of GHGs are presented in Table 3.7-2. Overall, Project-related GHG emissions would not approach the more conservative 1,100 MTCO<sub>2</sub>e significance threshold recommended by the SMAQMD. Project GHG emissions would be temporary and very low as compared to projects that create permanent sources of GHG emissions. Please refer to Appendix B for a copy of the GHG Spreadsheets supporting this analysis. A less than significant impact would result.

**Table 3.7-2. Estimated GHG Total Project Emissions**

AIR EMISSIONS SUMMARY		CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	MTCO <sub>2</sub> E
Pre-Survey	Pounds/Day	1,393.66	0.04	0.10	0.64
	Tons	0.70	0.00	0.00	
North Landing	Pounds/Day	6,436.82	0.14	0.33	34.43
	Tons	37.63	0.00	0.00	
South Landing	Pounds/Day	2,620.08	0.07	0.15	10.52
	Tons	11.49	0.00	0.00	
River Crossing Decommissioning	Pounds/Day	16,660.14	0.37	0.96	217.07
	Tons	237.10	0.01	0.02	
Post-Survey	Pounds/Day	1,393.66	0.04	0.10	0.64
	Tons	0.70	0.00	0.00	
TOTAL - PROJECT AIR EMISSIONS		CO <sub>2</sub>	N <sub>2</sub> O	CH <sub>4</sub>	MTCO <sub>2</sub> E
TOTAL CUMULATIVE EMISSIONS TONS/YEAR		287.62	0.01	0.02	263.30

***b) Conflict with an applicable plan, policy or regulation adopted for the purpose of reducing the emissions of greenhouse gases?***

**Less than Significant Impact.** The California Environmental Protection Agency (Cal EPA) Climate Action Team (CAT) and CARB have developed several reports to achieve the GHG targets identified by the State in Executive Order S-3-05 and Assembly Bill (AB) 32. These include the CAT's 2006 Report to former Governor Schwarzenegger and the Legislature (CAT 2006), CARB's 2007 Expanded List of Early Action Measures to Reduce Greenhouse Gas Emissions in California (CARB 2007), and CARB's Climate Change Proposed Scoping Plan: a Framework for Change (CARB 2008). The reports identify strategies to reduce California's emissions to the levels proposed in Executive Order S-3-05 and AB 32. The adopted Scoping Plan includes proposed GHG emissions reduction from direct regulations, alternative compliance mechanisms, monetary and non-monetary incentives, voluntary actions, and market based mechanisms.

The Project does not conflict with the State's plans, policies, or regulations for GHG emissions because it includes measures to reduce and minimize criteria pollutants and GHG emissions as identified in the Project Execution Plan (PEP). Emission reduction



measures incorporated into the Project plans and specifications as **MM AQ-1: Air Pollution Controls Measures** include:

- 1) harborcraft such as derricks, barges and tug boats shall meet the most stringent USEPA emission standard in place at the time of bid (Tier II for marine engines and non-road engines over 750 hp, Tier II for all other engines);
- 2) portable equipment with engines 50 hp and over shall be permitted through the CARB's Portable Equipment Registration Program;
- 3) use diesel oxidation catalysts and/or catalyzed diesel particulate traps;
- 4) use high pressure fuel injectors on diesel-powered equipment; and
- 5) maintain equipment according to manufacturer's specifications.

After construction of the Project is completed, there would be no sources of operational or ongoing GHG emissions that would undermine or conflict with the established GHG reduction targets. Because construction emissions would be short-term and would cease upon completion, GHGs from construction activities would not substantially contribute to the global GHG emissions burden. Additionally, Project construction would not conflict with any County or State policy to reduce GHG emissions, including Executive Orders S-3-05, S-01-07, and B-30-15. Given the above measures, no significant impact would result.

#### **3.7.4 Mitigation Summary**

No significant impacts resulting from GHGs would occur. However, as discussed in Section 3.3 (Air Quality), the following MMs would be implemented to further reduce and minimize impacts from GHG emissions.

- MM AQ-1: Air Pollutant Control Measures.

### 1 3.8 HAZARDS AND HAZARDOUS MATERIALS

HAZARDS AND HAZARDOUS MATERIALS - Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within 0.25 mile of an existing or proposed school?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code section 65962.5 and, as a result, would it create a significant hazard to the public or the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, result in a safety hazard for people residing or working in the project area?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.8.1 Environmental Setting

3 The Project site is located in the San Joaquin River and on adjacent upland areas that  
4 are occupied by the existing Lauritzen Harbor Yacht Harbor and open space zoned for  
5 recreational and agricultural uses at Sherman Island. The nearest school facilities are  
6 the Orchard Elementary School located approximately 1.3 miles southeast of the  
7 Project site and several preschool facilities located in the residential neighborhoods  
8 between 1.5 and 2 miles southeast of the Project site.

The nearest airfields are the Rio Vista Municipal Airport (Jack Bauman Field) located about 11 miles northeast of the Project site and the privately owned Delta Air Park located approximately 5 miles from the southern landing and Funny Farm Airstrip located in Brentwood approximately 7.3 miles southeast of the southern landing.

The onshore Project site is not located on a site that is included on a list of hazardous materials sites (per the provisions of Gov. Code, § 65962.5, commonly referred to as the "Cortese List") (State Water Resources Control Board [SWRCB] 2015; Department of Toxic Substances Control [DTSC] 2015). However, the southern landing at Lauritzen Yacht Harbor has been identified as being a closed former leaking underground storage tank site (RB Closed Case No. 070096) as identified on the Regional Water Quality Control Board (RWQCB) Geotracker website (SWRCB 2015).

### 3.8.2 Regulatory Setting

#### 3.8.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.8-1.

**Table 3.8-1. Laws, Regulations, and Policies (Hazards and Hazardous Materials)**

U.S.	Clean Water Act (CWA) (33 USC 1251 et seq.)	The CWA is comprehensive legislation (it generally includes reference to the Federal Water Pollution Control Act of 1972, its supplementation by the CWA of 1977, and amendments in 1981, 1987, and 1993) that seeks to protect the nation's water from pollution by setting water quality standards for surface water and by limiting the discharge of effluents into waters of the U.S. (see below and in Section 3.9, Hydrology and Water Quality).
U.S.	California Toxics Rule (40 CFR 131)	In 2000, the USEPA promulgated numeric water quality criteria for priority toxic pollutants and other water quality standards provisions to be applied to waters in the State of California. USEPA promulgated this rule based on the Administrator's determination that the numeric criteria are necessary in the State of California to protect human health and the environment. Under CWA section 303(c)(2)(B), the USEPA requires states to adopt numeric water quality criteria for priority toxic pollutants for which the USEPA has issued criteria guidance, and the presence or discharge of which could reasonably be expected to interfere with maintaining designated uses. These Federal criteria are legally applicable in California for inland surface waters, enclosed bays, and estuaries.
U.S.	Hazardous Materials Transportation Act (HMTA) (49 USC 5901)	The HMTA delegates authority to the USDOT to develop and implement regulations pertaining to the transport of hazardous materials and hazardous wastes by all modes of transportation. Additionally, the USEPA's Hazardous Waste Manifest System is a set of forms, reports, and procedures for tracking hazardous waste from a generator's site to the disposal site. Applicable Federal regulations are contained primarily in CFR Titles 40 and 49.
U.S.	National Oil and Hazardous Substances Pollution Contingency	Authorized under the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA), 42 USC 9605, as amended by the Superfund Amendments and Reauthorization Act of 1986 (SARA), Pub. L. 99 through 499; and by CWA section 311(d), as amended by the Oil Pollution Act of 1990 (OPA), Pub. L. 101 through 380. The NCP outlines requirements for responding to both oil spills and releases of hazardous substances. It specifies

**Table 3.8-1. Laws, Regulations, and Policies (Hazards and Hazardous Materials)**

	Plan (NCP) (40 CFR 300)	compliance, but does not require the preparation of a written plan. It also provides a comprehensive system for reporting, spill containment, and cleanup. The U.S. Coast Guard (USCG) and USEPA co-chair the National Response Team. In accordance with 40 CFR 300.175, the USCG has responsibility for oversight of regional response for oil spills in “coastal zones,” as described in 40 CFR 300.120.
U.S.	Oil Pollution Act (OPA) (33 USC 2712)	The OPA requires owners and operators of facilities that could cause substantial harm to the environment to prepare and submit plans for responding to worst-case discharges of oil and hazardous substances. The passage of the OPA motivated California to pass a more stringent spill response and recovery regulation and the creation of the Office of Spill Prevention and Response (OSPR) to review and regulate oil spill plans and contracts.
U.S.	Resource Conservation and Recovery Act (RCRA) (42 USC 6901 et seq.)	The RCRA authorizes the USEPA to control hazardous waste from “cradle-to-grave,” which encompasses its generation, transportation, treatment, storage, and disposal. RCRA’s Federal Hazardous and Solid Waste Amendments from 1984 include waste minimization and phasing out land disposal of hazardous waste as well as corrective action for releases. The Department of Toxic Substances Control is the lead State agency for corrective action associated with RCRA facility investigations and remediation.
U.S.	Toxic Substances Control Act (TSCA) (15 USC 2601-2692)	The TSCA authorizes the USEPA to require reporting, record-keeping, testing requirements, and restrictions related to chemical substances and/or mixtures. It also addresses production, importation, use, and disposal of specific chemicals, such as polychlorinated biphenyls (PCBs), asbestos-containing materials, lead-based paint, and petroleum.
U.S.	Other	<p>Act of 1980 to Prevent Pollution from Ships requires ships in U.S. waters, and U.S. ships wherever located, to comply with International Convention for the Prevention of Pollution from Ships (MARPOL).</p> <p>Convention on the International Regulations for Preventing Collisions at Sea (COLREGS). These regulations establish “rules of the road” such as rights-of-way, safe speed, actions to avoid collision, and procedures to observe in narrow channels and restricted visibility.</p> <p>Inspection and Regulation of Vessels (46 USC Subtitle II Part B). Federal regulations for marine vessel shipping are codified in 46 CFR parts 1 through 599 and are implemented by the USCG, Maritime Administration, and Federal Maritime Commission. These regulations provide that all vessels operating offshore, including those under foreign registration, are subject to requirements applicable to vessel construction, condition, and operation. All vessels (including motorboats) operating in commercial service (e.g., passengers for hire, transport of cargoes, hazardous materials, and bulk solids) on specified routes (inland, near coastal, and oceans) are subject to requirements applicable to vessel construction, condition, and operation. These regulations also allow for inspections to verify that vessels comply with applicable international conventions and U.S. laws and regulations.</p> <p>Navigation and Navigable Waters regulations (33 CFR) include requirements pertaining to prevention and control of releases of materials (including oil spills) from vessels, traffic control, and restricted areas, and general ports and waterways safety.</p>
CA	Lempert-Keene-Seastrand Oil Spill Prevention	This Act and its implementing regulations seek to protect State waters from oil pollution and to plan for the effective and immediate response, removal, abatement, and cleanup in the event of an oil spill. The Act requires vessel and marine facilities to have marine oil spill contingency plans and to demonstrate financial responsibility, and requires immediate cleanup of spills, following the

**Table 3.8-1. Laws, Regulations, and Policies (Hazards and Hazardous Materials)**

	and Response Act (Gov. Code, § 8574.1 et seq.; Pub. Resources Code, § 8750 et seq.)	approved contingency plans, and fully mitigating impacts on wildlife. The Act assigns primary authority to the Office of Spill Prevention and Response (OSPR) division within the CDFW to direct prevention, removal, abatement, response, containment, and cleanup efforts with regard to all aspects of any oil spill in the marine waters of the State. The CSLC assists OSPR with spill investigations and response.
CA	Other	<p>California Clean Coast Act (SB 771) establishes limitations for shipboard incinerators, and the discharge of hazardous material—including oily bilgewater, graywater, and sewage—into State waters or a marine sanctuary. It also provides direction for submitting information on visiting vessels to the CSLC and reporting of discharges to the State water quality agencies.</p> <p>California Harbors and Navigation Code specifies a State policy to “promote safety for persons and property in and connected with the use and equipment of vessels,” and includes laws concerning marine navigation that are implemented by local city and county governments. This Code also regulates discharges from vessels within territorial waters of the State of California to prevent adverse impacts on the marine environment. This Code regulates oil discharges and imposes civil penalties and liability for cleanup costs when oil is intentionally or negligently discharged to the State waters.</p> <p>California Seismic Hazards Mapping Act (Pub. Resources Code, § 2690) and Seismic Hazards Mapping Regulations (Cal. Code Regs., tit. 14, Div. 2, Ch. 8, Art. 10) (See Section 3.6, Geology and Soils).</p> <p>Hazardous Waste Control Act (Cal. Code Regs., tit. 26) defines requirements for proper management of hazardous materials.</p> <p>Porter-Cologne Water Quality Control Act (Cal. Water Code, § 13000 et seq.) (See Section 3.9, Hydrology and Water Quality).</p>

### 1 3.8.2.2 Local

### 2 **Sacramento County**

3 The following policies from the Sacramento County General Plan 2005-2030  
4 (Hazardous Materials Element 2011) were considered in this analysis.

### 5 Hazardous Materials Element

- 6 • Policy HM - 4: The handling, storage, and transport of hazardous materials shall  
7 be conducted in a manner so as not to compromise public health and safety  
8 standards.
- 9 • Policy HM - 8: Continue the effort to prevent ground water and soil  
10 contamination.
- 11 • Policy HM - 9: Continue the effort to prevent surface water contamination.
- 12 • Policy HM - 10: Reduce the occurrences of hazardous materials accidents and  
13 the subsequent need for incident response by developing and implementing  
14 effective prevention strategies.

- Policy HM - 11: Protect residents and sensitive facilities from incidents which may occur during the transport of hazardous materials in the County.

### **Contra Costa County**

The following goals and policies regarding hazardous materials uses from the Contra Costa County General Plan 2005-2020 (Contra Costa County 2010) were considered in this analysis.

#### Chapter 7: Public Facilities/Services Element - Section 7.12, Hazardous Waste Management

- Goal 7-AM: To eliminate the generation and disposal of hazardous waste materials to the maximum extent feasible by:
  - Reducing the use of hazardous substances and the generation of hazardous wastes at their source;
  - Recovering and recycling the remaining waste for reuse;
  - Treating those waste not amenable to source reduction or recycling so that the environment and community health are not threatened by their ultimate disposal;
  - Incinerating those wastes amenable to this technology; and
  - Properly disposing of treated residuals in approved residual repositories.

#### Chapter 10: Safety Element

- Goal 10-I: To provide public protection from hazards associated with use, transport, treatment, and disposal of hazardous substances.
  - Policy 10-61: Hazardous waste releases from both private companies and from public agencies shall be identified and eliminated.
  - Policy 10-62: Storage of hazardous materials and wastes shall be strictly regulated.
  - Policy 10-63: Secondary containment and periodic examination shall be required for all storage of toxic materials.
  - Policy 10-68: When an emergency occurs in the transportation of hazardous materials, the County Office of Emergency Services shall be notified as soon as possible.

### **City of Oakley**

The City's 2020 General Plan Health and Safety Element identifies the following goals and policies for hazardous materials that were considered in the analysis of the proposed Project:

- Policy 4.7.9: Avoid solid waste hauling on collectors and local streets through residential areas.
- Policy 4.7.10: The handling and storage of hazardous materials shall be identified and monitored by the local fire agencies.
- Policy 8.3.1: Hazardous waste releases from both private companies and public agencies shall be identified and eliminated.
- Policy 8.3.2: Storage of hazardous materials and wastes shall be strictly regulated.
- Policy 8.3.3: Secondary containment and periodic examination shall be required for all storage of toxic materials.

### 3.8.3 Impact Analysis

***a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials?***

***b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment?***

**a) and b). Less than Significant with Mitigation.** During construction, offshore vessels and onshore equipment would be used that contain hazardous materials. Potential impacts to the surrounding environment(s) could result if an unanticipated release of these materials occurred. However, implementation of measures, such as refueling of vessels and equipment prior to transit to the Project site, would reduce the potential for incidental spills to the extent feasible. Additionally, if a release of hazardous materials to the marine environment were to occur, **MM HAZ-1: Oil Spill Response Plan** would reduce the risk to less than significant levels.

**MM HAZ-1: Oil Spill Response Plan (OSRP).** Pacific Gas and Electric shall submit a Project-specific OSRP to California State Lands Commission staff 60 days prior to commencement of Project activities, for review and approval. At a minimum, the Project-specific OSRP shall:

- Clearly identify the responsibilities of onshore and offshore contractors prior to and during an unanticipated release of oil or other hydrocarbon;
- List and identify the location(s) of oil spill response equipment (including booms) onshore and offshore onboard Project vessels;
- List response times for deployment;
- Require that petroleum-fueled equipment on the main deck of all vessels have drip pans or other means of collecting dripped petroleum, which shall be collected and treated with onboard equipment;



- Require the primary work vessel to carry on board a minimum 400 feet of sorbent boom, 5 bales of sorbent pads at least 18-inch x18-inch square, and small powered boat for rapid deployment to contain and clean up any small spill or sheen on the water surface;
- Ensure that contracts with off-site spill response companies are in-place prior to commencement of Project activities; and
- Provide for additional containment and clean-up resources as needed.

Anchoring would be limited to the primary vessel and barge. Anchors used to moor the supporting derrick barge would require a disturbance area of less than 78 square feet per anchor, assuming a disturbed area approximately 10 feet in diameter. The Project would also require anchoring activities to occur within an area adjacent to an active natural gas pipeline (PG&E Line 131). The Line 131 crossing was constructed using conventional pull-and-bury marine pipeline installation techniques and is exposed or buried at shallow depths between the river's two shorelines. However, the location of the PG&E Line 131 submarine pipeline crossing, has been identified and anchoring locations designed to avoid potential interference with the existing utility. **MM HAZ-2: Marine Safety and Anchoring Plan** would reduce potential hazards, and no significant impact due to anchoring would result.

**MM HAZ-2: Marine Safety and Anchoring Plan (MSAP).** Pacific Gas and Electric (PG&E) shall submit a final MSAP to California State Lands Commission staff 60 days prior to commencement of offshore activities, and all pertinent regulatory agencies including National Marine Fisheries Service and the U.S. Coast Guard Vessel Transit Safety for review and approval that describes how PG&E would avoid placing anchors on sensitive ocean floor habitats and pipelines. At a minimum, the MSAP shall include the following information:

- A list of all vessels that would anchor during the Project and the number and size of anchors to be set;
- Detailed maps showing proposed anchor locations with coordinates taking into account 1) adjacent utilities, 2) tidal water currents and 3) limiting impacts to local boaters and non-project vessels;
- A description of the navigation equipment that would be used to ensure anchors are accurately set;
- Anchor deployment and retrieval procedures that would be followed to prevent anchor dragging; and
- Training for all applicable contractors and employees on operational protocols, procedures, and directives of the MSAP.

To avoid hazards associated with debris during and after decommissioning activities, the following measure (**MM HAZ-3: Pre- and Post-Decommissioning Surveys**) would be implemented to reduce potential impacts to less than significant.

1       **MM HAZ-3: Pre- and Post-Decommissioning Surveys.** A baseline riverbed debris  
2       survey shall be performed prior to the start of offshore decommissioning  
3       activities at the Project site. The baseline debris survey shall consist of a  
4       side-scan sonar with 400 percent coverage and a bathymetric survey of the  
5       entire underwater work site.

6       Following the completion of decommissioning activities, Pacific Gas and  
7       Electric shall repeat the survey of the same underwater work site again using  
8       side-scan sonar with 400 percent coverage and bathymetry. The survey map  
9       produced from this survey shall be compared with the baseline survey and  
10      used to identify any items of riverbed debris introduced into the underwater  
11      worksites by the decommissioning operations. The contractor shall be directed  
12      to remove debris related to the decommissioning operations.

13      Both the pre-decommissioning survey map and the post-decommissioning  
14      survey maps shall be provided to California State Lands Commission staff for  
15      review and approval within 60 days of survey activities.

16      During onshore decommissioning activities, the potential exists to encounter hazardous  
17      materials in subsurface soils or when handling pipe coating materials. As discussed in  
18      the PEP (Appendix A), in accordance with **MM HAZ-4: Pig/Clean Pipeline Interiors**,  
19      even though the pipelines are inactive and filled with inert gas, the pipelines would be  
20      pigged and flushed prior to removal. Prior to work at the Sherman Island valve pit, an  
21      extended Phase I Environmental Site Assessment review, as well as the assessment of  
22      soils, would be conducted to address this potential soil contamination issues at this  
23      location (**MM HAZ-5: Phase I Environmental Site Assessment**). All work requiring  
24      removal of facilities would be conducted by personnel trained to work with hazardous  
25      substances and any suspicious soils (stained or with unusual odor) or groundwater  
26      (showing a sheen or with an unusual odor) would be tested and treated in accordance  
27      with all applicable laws (this may require removal of materials and disposal to an  
28      appropriate facility, or onsite treatment).

29      **MM HAZ-4: Pig/Clean Pipeline Interiors.** The interiors of the terrestrial and  
30      submarine pipelines shall be pigged and flushed prior to start of  
31      decommissioning activities to ensure that all contaminants inside the  
32      pipelines have been eliminated or lowered to levels below acceptable  
33      regulatory limits so that the pipelines may be opened to the river during the  
34      submarine pipeline removal process. The cleaning shall consist of a chemical  
35      wash or sand wash of the pipeline interiors. The contaminate levels of the  
36      pipeline interiors shall be tested and certified prior to the start of  
37      decommissioning and the results submitted to California State Lands  
38      Commission staff prior to initiation of Project activities.

39      **MM HAZ-5: Phase I Environmental Site Assessment.** Prior to work at the  
40      Sherman Island valve pit, an extended Phase I Environmental Site  
41      Assessment review as well as the assessment of soils would be conducted to

1 address potential soil contamination issues at this location. Assessment  
2 results shall be submitted to California State Lands Commission staff within  
3 1 week of completion. Any contaminated soils found onsite shall be removed  
4 and properly disposed of at an approved offsite facility.

5 Additionally, since the pipe weight coating materials may contain asbestos, pipeline  
6 weight coatings would be sampled and tested for the presence of asbestos prior to  
7 submission of the Contractor Work Plan or start of construction (**MM HAZ-6: Asbestos**  
8 **Testing**). All pipeline decommissioning activities would be conducted in accordance  
9 with regulations pertaining to asbestos (if found). A less than significant impact would  
10 result after mitigation.

11 **MM HAZ-6: Asbestos Testing.** Pipeline weight coatings shall be sampled and  
12 tested for the presence of asbestos prior to the submission of the Contractor  
13 Work Plan. Testing results shall be submitted to California State Lands  
14 Commission staff within 1 week of completion. If asbestos is found, an  
15 asbestos work plan shall be developed specifically for the Project and the  
16 plan shall be included in the Contractor Work Plan. The asbestos work plan  
17 shall provide specifications and procedures for proper protective clothing and  
18 personal safety equipment, emergency planning, site preparation for asbestos  
19 removal, removal of asbestos containing materials (pipe coating), disposal  
20 procedures, air monitoring, cleanup procedures, and submittals.

21 ***c) Emit hazardous emissions or handle hazardous or acutely hazardous materials,***  
22 ***substances, or waste within 0.25 mile of an existing or proposed school?***

23 **No Impact.** There are no schools within 0.25 mile of the Project site.

24 ***d) Be located on a site which is included on a list of hazardous materials sites***  
25 ***compiled pursuant to Government Code section 65962.5 and, as a result, would it***  
26 ***create a significant hazard to the public or the environment?***

27 **Less than Significant Impact.** The Cal EPA Hazardous Waste and Substances Site  
28 List (Cortese List), which is compiled pursuant to Government Code section 65962.5,  
29 was reviewed, and the Project site is not listed (DTSC 2015). Although the southern  
30 landing is located within an area that has been identified by the RWQCB on the  
31 Geotracker website (SWRCB 2015), as a former leaking underground storage tank site;  
32 the case has been closed. The pipeline removal activities would not disrupt existing  
33 soils at the southern landing that would have the potential to create a significant hazard  
34 to the public or the environment. Pipelines would be removed and existing pipelines  
35 would be protected in their current state. No significant impact would result.

36 ***e) For a project located within an airport land use plan or, where such a plan has***  
37 ***not been adopted, within 2 miles of a public airport or public use airport, would***

1 ***the project result in a safety hazard for people residing or working in the project***  
2 ***area?***

3 **No Impact.** The Project site is not within an airport land use planning area or within  
4 2 miles of a public airport or public use airport.

5 ***f) For a project within the vicinity of a private airstrip, would the project result in a***  
6 ***safety hazard for people residing or working in the project area?***

7 **No Impact.** The Project site is not within 2 miles of a private air strip.

8 ***g) Impair implementation of or physically interfere with an adopted emergency***  
9 ***response plan or emergency evacuation plan?***

10 **No Impact.** The Project would not impair implementation of or physically interfere with  
11 an adopted emergency response or evacuation plan. No impact would result.

12 ***h) Expose people or structures to a significant risk of loss, injury or death***  
13 ***involving wildland fires, including where wildlands are adjacent to urbanized***  
14 ***areas or where residences are intermixed with wildlands?***

15 **No Impact.** The Project site is not subject to wildland fires or in an area where  
16 residences are intermixed with wildlands.

#### 17 **3.8.4 Mitigation Summary**

18 Implementation of the following MMs would reduce the potential for Project-related  
19 impacts from hazardous materials to less than significant.

- 20 • MM HAZ-1: Oil Spill Response Plan.
- 21 • MM HAZ-2: Marine Safety and Anchoring Plan.
- 22 • MM HAZ-3: Pre- and Post-Decommissioning Surveys.
- 23 • MM HAZ-4: Pig/Clean Pipeline Interiors.
- 24 • MM HAZ-5: Phase I Environmental Site Assessment.
- 25 • MM HAZ-6: Asbestos Testing.

## 1 3.9 HYDROLOGY AND WATER QUALITY

<b>HYDROLOGY AND WATER QUALITY - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Violate any water quality standards or waste discharge requirements?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
f) Otherwise substantially degrade water quality?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
g) Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
h) Place within a 100-year flood hazard area structures which would impede or redirect flood flows?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
j) Inundation by seiche, tsunami, or mudflow?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

### 3.9.1 Environmental Setting

#### 3.9.1.1 Surface Waters

The Project site lies approximately 6 miles upstream from the confluence of the northward-flowing San Joaquin River and southward-flowing Sacramento River, which together form the Sacramento-San Joaquin Delta. The San Francisco Bay estuary lies west of the site, with Suisun Bay located approximately 15 miles downstream. The waters of the Sacramento-San Joaquin Delta provide an array of beneficial uses including, but not necessarily limited to:

- Municipal and Domestic Drinking Water
- Agricultural Water Supply
- Industrial Service/Process Supply
- Groundwater Recharge
- Freshwater Replenishment
- Navigation
- Water Contact Recreation
- Non-Water Contact Recreation
- Commercial and Sport Fishing
- Aquaculture
- Freshwater Habitats
- Biological Habitats

Surface water quality within the Sacramento-San Joaquin Delta is affected by multiple sources including agriculture, silviculture, municipalities and industrial drainage, stormwater runoff, mineral exploration and extraction, and hazardous and non-hazardous waste disposal. Under Section 303(d) of the CWA (please refer to Section 3.9.2, Regulatory Setting, for detail), States, territories, and authorized tribes are required to develop lists of impaired waters that are too polluted or otherwise degraded to meet water quality standards. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop a maximum amount of the pollutant or Total Maximum Daily Load (TMDL) that a waterbody can receive and still safely meet water quality standards. As shown in Table 3.9-1, the Project is located within an area listed by the USEPA as “impaired” for the reporting year 2010 under CWA Act Section 303(d) (USEPA 2011).

#### Methylmercury within the San Joaquin River Delta

As shown in Table 3.9-1 above, the San Joaquin River Delta within the Project area is listed on the CWA 303(d) list with elevated levels of mercury in fish (SWRCB 2010). CWA Section 303(d)(1)(A) requires RWQCBs to establish water quality management strategies for those pollutants causing the impairments to ensure that impaired waters attain their beneficial uses. Although multiple Programs are in place for reduction of mercury within the Sacramento River and San Joaquin River Basin, there is currently no certified TMDL.

**Table 3.9-1. Causes of Water Quality Impairment for Reporting Year 2010**

Cause of Impairment	Cause of Impairment Group	Designated Use(s)	State TMDL Development Status
Chlorpyrifos	Pesticides	Warm Freshwater Habitat	TMDL completed
Conductivity	Salinity/Total Dissolved Solids/Chlorides/Sulfates	Agricultural Supply	TMDL needed
Dichlorodiphenyltrichloroethane (DDT)	Pesticides	Commercial And Sport Fishing	TMDL needed
Diazinon	Pesticides	Warm Freshwater Habitat	TMDL completed
Group A Pesticides	Pesticides	Commercial And Sport Fishing	TMDL needed
Invasive Exotic Species	Nuisance Exotic Species	Warm Freshwater Habitat	TMDL needed
Mercury	Mercury	Commercial And Sport Fishing	TMDL needed
Unknown Toxicity	Total Toxics	Warm Freshwater Habitat	TMDL needed

Source: USEPA 2011

The original 303(d) listing was based on a 1971 human health advisory issued for the Sacramento and San Joaquin River Delta advising pregnant women and children not to eat striped bass due to mercury content (SWRCB 2010). Mercury is a toxicant that can have lasting effects on neurological development and the abilities of persons exposed *in utero* and as children. People exposed to methylmercury through the consumption of fish have shown multiple negative effects including, but not limited to: deficits in memory, attention, language, fine motor control, and visual-spatial perception and lowered intelligence. Monomethylmercury or methylmercury (MeHg) is the predominant form of organic mercury present in biological systems and is identified as the most toxic form of mercury (SWRCB 2010). Sources of methylmercury in Delta waters include tributary inputs from upstream watersheds and within-Delta sources such as methylmercury production in wetland and open water habitat sediments, municipal and industrial wastewater, agricultural drainage, and urban runoff.

#### **Delta Methylmercury Control Program**

In 2010, the SWRCB staff completed recommended amendments to the existing Water Quality Control Plan for the Sacramento River and San Joaquin River Basins for the control of methylmercury and total mercury in the Delta (SWRCB 2010). These proposed Basin Plan amendments comprise the Delta Mercury Control Program. The regulatory mechanism to implement the Delta Mercury Control Program for point sources is through National Pollutant Discharge Elimination System (NPDES) permits. Requirements for NPDES Permitted Urban Runoff Discharges include implementation of BMPs to control erosion and sediment discharges consistent with their existing



permits and orders with the goal of reducing mercury discharges. Nonpoint sources are generally regulated through the authority contained in State and Federal laws and regulations, including State Water Board's Nonpoint Source Implementation and Enforcement Policy. The proposed Delta Mercury Control Program implementation plan consists of two phases: 1) studies and pilot projects to develop and evaluate management practices to control methylmercury (anticipated to culminate in a revised Delta Mercury Control Program in about 2019), and 2) implementation of management strategies identified following Phase 1 (anticipated to begin full compliance by 2030).

## **San Joaquin River Bed Morphology and Scour**

Within the Project region, San Joaquin River bed has a single channel. Within the immediate Project area, well-formed, mobile sediment waves and longitudinal bars have been observed on the river bed (Fugro 2006). According to Fugro (2006), studies on sediment mobility in the area indicate that although dependent on river flow velocities and sediment loads, sediment waves of up to 9.8 feet high have been observed and migration rates of up to 6.5 feet per day were observed indicating that sediment within the river bed is in motion. Changes in sand wave morphology were observed during changing river flow and sediment load conditions, including storm events and stronger tidal influence during periods of lower river discharge, however, the large-scale river bed morphology has remained fairly constant over at least the last 3 years (Fugro 2006).

### **3.9.1.2 Groundwater**

The Project is located primarily within the San Joaquin Valley Groundwater Basin (Tracy Subbasin) within the Diablo Water District, with some overlap into the Sacramento Valley Groundwater Basin (Solano Subbasin). The Tracy Subbasin includes the northwestern most portion of the San Joaquin Valley Groundwater Basin around the Sacramento-San Joaquin Delta and extends south into the central portion of the San Joaquin Valley. Overall, population density within the subbasin is relatively sparse, with the major cities being Tracy, Brentwood, and Oakley. Subbasin boundaries are defined by the Mokelumne and San Joaquin Rivers on the north; the San Joaquin River on the east; and the San Joaquin-Stanislaus County line on the south. The western subbasin boundary is defined by the contact between the unconsolidated sedimentary deposits and the rocks of the Diablo Range (Diablo Water District 2007).

According to the Diablo Water District Groundwater Management Plan for AB 3030, hydrogeologic studies pertaining to the east Contra Costa County area are relatively limited (Diablo Water District 2007). However, the available studies indicate that the geologic material in the Tracy Subbasin below 800 feet is dominated by fine-grained (clay and shale) deposits and some sandy zones with indications of saline or brackish water present. Within the Project region, there appears to be a lack of aquifer materials (sand and gravels) below 800 feet considered suitable for potable water. From the

above, any sands and gravels that are present at depths below about 500 feet are likely brackish to saline. Most groundwater water wells in the area are shallow (less than 100 feet deep), although there are some wells accessing the “deep” aquifer (at depths greater than 200 feet deep). Groundwater quality within this area has generally been classified as marginal to poor by the Diablo Water District (2007).

### 3.9.1.3 Flooding

The northern landing of the pipeline corridor and an onshore valve pit are located on Sherman Island. Sherman Island is located within the Federal Emergency Management Agency (FEMA) designation of Zone A (100-year flood plain) and protected by a levee system built in 1942.

## 3.9.2 Regulatory Setting

### 3.9.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.9-2.

**Table 3.9-2. Laws, Regulations, and Policies (Hydrology and Water Quality)**

U.S.	Clean Water Act (CWA) (33 USC 1251 et seq.)	<p>The CWA is comprehensive legislation (it generally includes reference to the Federal Water Pollution Control Act of 1972, its supplementation by the CWA of 1977, and amendments in 1981, 1987, and 1993) that seeks to protect the nation’s water from pollution by setting water quality standards for surface water and by limiting the discharge of effluents into waters of the U.S. These water quality standards are promulgated by the USEPA and enforced in California by the State Water Resources Control Board (SWRCB) and nine Regional Water Quality Control Boards (RWQCBs). CWA sections include:</p> <ul style="list-style-type: none"> <li>• <u>State Water Quality Certification</u>. Section 401 (33 USC 1341) requires certification from the State or interstate water control agencies that a proposed water resources project is in compliance with established effluent limitations and water quality standards. USACE projects, as well as applicants for Federal permits or licenses are required to obtain this certification.</li> <li>• <u>National Pollution Discharge Elimination System) (NPDES)</u>. Section 402 (33 USC 1342) establishes conditions and permitting for discharges of pollutants under the NPDES.</li> <li>• <u>Ocean Discharges</u>. Section 403 (33 USC 1343) addresses criteria and permits for discharges into the territorial seas, the contiguous zone, and the oceans.</li> <li>• <u>Permits for Dredged or Fill Material</u>. Section 404 (33 USC 1344) authorizes a separate permit program for disposal of dredged or fill material in U.S. waters.</li> <li>• <u>Impaired Water Bodies and TMDLs</u>. Section 303 of the Clean Water Act, states, territories, and authorized tribes are required to develop lists of impaired waters. These are waters that are too polluted or otherwise degraded to meet the water quality standards set by states, territories, or authorized tribes. The law requires that these jurisdictions establish priority rankings for waters on the lists and develop TMDLs for these waters. A Total Maximum Daily Load, or TMDL, is a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.</li> </ul>
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**Table 3.9-2. Laws, Regulations, and Policies (Hydrology and Water Quality)**

U.S.	Oil Pollution Act (OPA) (33 USC 2712)	The OPA requires owners and operators of facilities that could cause substantial harm to the environment to prepare and submit plans for responding to worst-case discharges of oil and hazardous substances. The passage of the OPA motivated California to pass a more stringent spill response and recovery regulation and the creation of the Office of Spill Prevention and Response (OSPR) to review and regulate oil spill plans and contracts.
U.S.	Rivers and Harbors Act (33 USC 401)	This Act governs specified activities (e.g., construction of structures and discharge of fill) in “navigable waters” of the U.S. (waters subject to the ebb and flow of the tide or that are presently used, have been used in the past, or may be susceptible for use to transport interstate or foreign commerce). Under section 10, excavation or fill within navigable waters requires approval from the USACE, and the building of any wharf, pier, jetty, or other structure is prohibited without Congressional approval.
CA	Porter-Cologne Water Quality Control Act (Cal. Water Code, § 13000 et seq.) (Porter-Cologne)	<p>Porter-Cologne is the principal law governing water quality in California. The Act established the SWRCB and nine RWQCBs who have primary responsibility for protecting State water quality and the beneficial uses of State waters. Porter-Cologne also implements many provisions of the Federal CWA, such as the National Pollutant Discharge Elimination System (NPDES) permitting program. Pursuant to the CWA Section 401, applicants for a Federal license or permit for activities that may result in any discharge to waters of the U. S. must seek a Water Quality Certification (Certification) from the State in which the discharge originates. Such Certification is based on a finding that the discharge would meet water quality standards and other appropriate requirements of State law. In California, RWQCBs issue or deny certification for discharges within their jurisdiction. The SWRCB has this responsibility where projects or activities affect waters in more than one RWQCB's jurisdiction. If the SWRCB or a RWQCB imposes a condition on its Certification, those conditions must be included in the Federal permit or license.</p> <p>Statewide Water Quality Control Plans include: individual RWQCB Basin Plans; the California Ocean Plan; the San Francisco Bay/Sacramento-San Joaquin Delta Estuary Water Quality Control Plan (Bay-Delta Plan); the Water Quality Control Plan for Enclosed Bays and Estuaries of California; and the Water Quality Control Plan for Control of Temperature in the Coastal and Interstate Waters and Enclosed Bays and Estuaries of California (Thermal Plan). These Plans contain enforceable standards for the various waters they address. For example:</p> <ul style="list-style-type: none"> <li>• <u>Basin Plan</u>. Porter-Cologne (§ 13240) requires each RWQCB to formulate and adopt a Basin Plan for all areas within the Region. Each RWQCB establishes water quality objectives to ensure the reasonable protection of beneficial uses and a program of implementation for achieving water quality objectives within the basin plans. 40 CFR 131 requires each State to adopt water quality standards by designating water uses to be protected and adopting water quality criteria that protect the designated uses. In California, the beneficial uses and water quality objectives are the State's water quality standards.</li> <li>• The <u>California Ocean Plan</u> establishes water quality objectives for California's ocean waters and provides the basis for regulation of wastes discharged into the State's ocean and coastal waters. For example, the Ocean Plan incorporates the State water quality standards that apply to all NPDES permits for discharges to ocean waters.</li> </ul>

**Table 3.9-2. Laws, Regulations, and Policies (Hydrology and Water Quality)**

CA	Other	<ul style="list-style-type: none"> <li>Under California Code of Regulations, Title 23, the Central Valley Flood Protection Board (CVFPB) regulates specific river, creek, and slough crossings for flood protection: 1) new crossings must maintain hydraulic capacity through such measures as in-line piers, adequate stream bank height (freeboard), and measures to protect against stream bank and channel erosion, and 2) improvements, including crossings, must be constructed in a manner that does not reduce the channel's capacity or functionality, or that of any Federal flood control project.</li> <li>California Water Code section 8710 requires that a reclamation board permit be obtained prior to the start of any work, including excavation and construction activities, if projects are located within floodways or levee sections. Structures for human habitation are not permitted within designated floodways.</li> </ul>
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### 3.9.2.2 Local

#### **Contra Costa County Watershed Program (CWP)**

The Contra Costa CWP is a collaboration between the County, the 19 incorporated cities and towns of the County, and the County Flood Control and Water Conservation District. The CWP is responsible for ensuring that the County's unincorporated areas comply with its municipal stormwater NPDES permits, as authorized by County Ordinance 96-21, Title 1014 Stormwater Management and Discharge Control. The County currently holds two NPDES permits: the Municipal Regional Permit for discharges to the San Francisco Bay and the East Contra Costa County Permit for discharges to the Delta. The CWP oversees new development and construction projects; provides municipal maintenance, inspection activities, public education, and industrial outreach; and implements stormwater/urban run-off monitoring programs, pollution prevention programs, and illicit discharge control activities.

#### **Contra Costa County Drainage Ordinance**

The Contra Costa County Drain Ordinance 1010 regulates work on watercourses and drainage facilities in unincorporated areas of the county. Any work that involves man-made drainage facilities or natural watercourses may require a drainage permit from the County. Some of the activities covered by this permit requirement include:

- Construction of creek improvements or bank stabilization;
- Creek cleanup;
- Removal / alteration of creek bank-stabilizing vegetation;
- Construction of improvements within drainage easements or within natural watercourses; and
- Construction / modification.

1 **Contra Costa County**

2 Contra Costa County General Plan 2005-2020 (Contra Costa County 2010) policies  
3 considered in the analysis of the proposed Project include the following:

- 4 • Water Resources Goal 8-T - To conserve, enhance, and manage water  
5 resources, protect their quality, and assure an adequate long-term supply of  
6 water for domestic, fishing, industrial, and agricultural use.
- 7 • Water Resources Goal 8-V - To preserve and restore remaining natural  
8 waterways in the county which have been identified as important and  
9 irreplaceable natural resources.
- 10 • General Water Resources Policy 8-75 - Preserve and enhance the quality of  
11 surface and groundwater resources.
- 12 • Goal 8-F - To encourage the preservation and restoration of the natural  
13 characteristics of the San Francisco Bay/Delta estuary and adjacent lands, and  
14 recognize the role of Bay vegetation and water area in maintaining favorable  
15 climate, and water quality, fisheries and migratory waterfowl.

16 **3.9.3 Impact Analysis**

17 ***a) Violate any water quality standards or waste discharge requirements?***

18 **Less than Significant with Mitigation**

19 Onshore

20 The Project includes the temporary use of standard construction equipment onshore  
21 within the northern pipeline corridor and valve pit equipment laydown area as well as  
22 the southern valve pit located in the Lauritzen Yacht Harbor. Impacts to onshore water  
23 quality could result from the release of potential contaminant within the vaults and  
24 portions of the pipelines to be removed onshore. To reduce potential impacts during  
25 removal activities, PG&E would pig clean pipeline interiors prior to removal in  
26 accordance with SWQCB standards (**MM HAZ-4: Pig/Clean Pipeline Interiors**).

27 In addition, the SWRCB generally requires that construction activity such as clearing,  
28 grading and disturbances to the ground such as stockpiling, or excavation, requires the  
29 development and implementation of a Storm Water Pollution Prevention Plan (SWPPP).  
30 SWPPPs are required for projects that disturb one or more acres of soil or projects that  
31 disturb less than one acre but are part of a larger common plan of development that in  
32 total disturbs one or more acres (SWRCB, 2015). Onshore, the northern landing work  
33 site includes an overall disturbed area of approximately 12,200 square feet or 0.28  
34 acres. With the exception of the marine safety sign removal on the south shoreline,

1 there is no disturbed area at the southern site because no excavation would be  
2 required. Due to the minimal amount of ground disturbance required, the Project would  
3 not be required to develop and implement a Project SWPPP.

4 Staging and use of the construction equipment onsite could also result in an increased  
5 potential of leaks or spills of hydrocarbons such as hydraulic fluid or fuel. Equipment  
6 spills and unanticipated leaks would be reduced through the implementation of industry-  
7 standard BMP measures to reduce surface water pollution (**MM WQ-1: Surface Water**  
8 **Protection**). With the incorporation of **MM HAZ-4** and **MM WQ-1**, impacts to water  
9 quality from onshore Project activities would be less than significant.

10 **MM WQ-1: Surface Water Protection.** Pacific Gas and Electric (PG&E) shall be  
11 required to implement Best Management Practices (BMPs) for reduction of  
12 surface water pollution. At a minimum, the BMPs shall include the following:

- 13 • Clearing of vegetation shall be confined to the minimal area needed for  
14 construction.
- 15 • Erosion and sediment shall be controlled with the application of materials  
16 such as silt fences and straw wattles.
- 17 • Onshore and offshore trash management and litter control procedures  
18 shall be specified, including responsible parties, and implemented to  
19 reduce potential pollution of surface waters.
- 20 • Practical informational materials and/or training shall be provided to  
21 employees to increase their understanding of stormwater quality, sources  
22 of pollutants, and their responsibility for reducing pollutants in stormwater.
- 23 • The contractor shall minimize the potential for spills of chemicals,  
24 hydraulic fluid, fuels, or other hazardous materials during construction and  
25 shall have onsite emergency spill containment kit to contain and remove  
26 any spilled fluids.
- 27 • The potential for spills from Project equipment and machinery shall be  
28 minimized by using drip pans, visqueen, or other suitable secondary  
29 containment during overnight storage within equipment lay-down areas.
- 30 • Vessel fueling shall be required at the staging area or at an approved  
31 docking facility, and no cross-vessel fueling shall be allowed. In addition,  
32 all fuels and lubricants aboard the work vessel(s) shall have a double  
33 containment system. Chemicals used within the Project area and on work  
34 vessels shall be stored using secondary containment.
- 35 • PG&E shall not store fuel or oil at the proposed Project's parking and  
36 staging area upland of the work site. Fuel containment at the contractor's  
37 existing shore base may store quantities of oil and fuel.

1    Offshore

2    The majority of the Project activities would occur offshore, onboard Project vessels. An  
3    impact to offshore water quality could result from either 1) an unanticipated release of  
4    petroleum-based hydrocarbons or hazardous materials from Project vessels or onboard  
5    equipment; or 2) resuspension of riverbed sediment during anchoring and pipeline  
6    removal as further discussed below.

7    *1) Unanticipated release of petroleum-based hydrocarbons or hazardous materials from*  
8    *Project vessels or onboard equipment.*

9    An impact to water quality could result from an unanticipated release of hazardous  
10   materials from Project vessels and onboard equipment. These types of water quality  
11   impacts could occur from:

- 12       • An unanticipated spill during refueling of vessels or equipment;
- 13       • The release of a small amount of hydrocarbon or unanticipated fluid releases
- 14       from equipment located onboard Project vessels; or
- 15       • A breach in a Project vessel fuel tank.

16   As discussed within the Project Critical Operations and Curtailment Plan of the PEP  
17   (Section 3.10 of Appendix A), the support vessels and equipment mounted on the deck  
18   of the derrick barge would require periodic refueling. As with any refueling requirement,  
19   the possibility of spillage exists. However, all refueling of support vessels would take  
20   place at approved fueling docks. Refueling of the equipment mounted on the deck of the  
21   derrick barge would likely take place from integral fuel tanks built into the support barge,  
22   or from deck mounted fuel totes. If necessary, USCG-approved fuel totes would be  
23   used and transported to the offshore Project site where they would be placed on the  
24   deck of the derrick barge with the derrick barge crane. No cross-vessel refueling would  
25   occur. In addition, according to PG&E, all work crews would be directed to monitor all  
26   deck equipment for leaks and, if observed, would cease operation of the affected  
27   machinery and correct any leaks. All hydrocarbon-based fluids stored onboard the work  
28   vessels would also be required to have a double containment system.

29   Additionally, potential contaminants could be released during removal of the portions of  
30   the pipelines offshore.

31   The loss of a substantial amount of fuel, lubricating oil, debris or petroleum products  
32   could affect the water column resulting in alteration of the existing water quality.  
33   However, implementation of **MM HAZ-1: Oil Spill Response Plan** and **MM HAZ-4:**  
34   **Pig/Clean Pipeline Interiors** would mitigate impacts to less than significant.

2) *Resuspension of riverbed sediment during anchoring and pipeline removal.*

The decommissioning work would take place in the San Joaquin River east of the Antioch Bridge. Water currents are predicted to be as high as 1.1 knots during the environmental work window of August 1, 2013 to October 31, 2013, rain events excluded. According to the Desktop Study San Joaquin River Pipeline Crossing Remediation Project, Sacramento - San Joaquin Delta, California (Fugro 2006), the San Joaquin River bed is a highly dynamic fluvial environment with river sediments, river depths and bed morphology subject to daily (tidal) and seasonal variation. Mobile sediments are clearly indicated by active bed forms (sand waves and bars) and pipeline removal would be required to take into account the highly mobile river bed sediments and variable river flow regimes.

Required underwater excavation activities are planned using light underwater excavation tools such as submersible pump excavation, hand jetting, or air lifting. Surface turbidity would be monitored during underwater excavation work and kept within allowable thresholds established by the RWQCB for in-water work. The pipelines would be cut using underwater cutting equipment. Prior to cutting each pipeline a band of coating would be removed at each cut point to facilitate a clean cut. The coating chips would be recovered to the extent that the underwater river conditions and water currents permit.

Impacts to marine water quality could result from the resuspension of sediment material during Project anchoring as well as the cutting, removal and lifting of buried pipeline segments from the riverbed onto the barge. The resuspension of sediment material into the water column may increase turbidity, increase concentrations of nutrients or other settled materials (including methylmercury), lower dissolved oxygen content, lower visibility and temporarily modify the pH within the waters located within the immediate Project area. Any impacts to water quality caused by the resuspension of sediment into the water column may affect marine biota. For further detail regarding the potential for turbidity to affect marine biota, please refer to Section 3.4, Biological Resources.

Impacts would be localized and short-term, as water conditions would be expected to return to natural conditions following Project completion. However, to further reduce potential impacts due to increased turbidity, in accordance with **MM HAZ-2: Marine Safety and Anchoring Plan**, anchor placement would be done in such a manner as to avoid dragging of anchors on the riverbed. In addition, **MM BIO-4: In-Water Work Windows and Protections** would help address impacts resulting from increased water turbidity. With the inclusion of these measures, water quality issues that could result from the Project would be less than significant with mitigation.

***b) Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or***



***a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted)?***

**No Impact.** The Project would not require the use of groundwater nor would it create new impermeable surfaces that would interfere with groundwater recharge. No impact would result.

***c) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site?***

**No Impact.** The Project does not include the installation of or construction of any structures that would alter the existing drainage patterns on site. Removal of the pipelines within the San Joaquin River would have no permanent effect on local currents. Project activities would be temporary and onshore areas affected by trenching would be returned to pre-Project conditions. No impact would result.

***d) Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site?***

**No Impact.** The Project does not include the installation of or construction of any structures that would alter the existing drainage patterns on site. The Project would not create new impermeable surfaces. Removal of the pipelines within the San Joaquin River would have no permanent effect on local currents. Project activities would be temporary and onshore areas affected by trenching would be returned to pre-Project conditions. No impact would result.

***e) Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems or provide substantial additional sources of polluted runoff?***

**Less than Significant with Mitigation.** Pipeline removal activities would not create any new or permanent impermeable surfaces that could create additional stormwater runoff. However, the use of construction equipment within the onshore and offshore Project areas, even temporarily, would cause an increase in the potential for hazardous materials, contaminated hydrocarbons or other pollution associated with construction activities or equipment to leak or spill. To mitigate this risk, PG&E would implement **MM WQ-1** for industry-standard BMPs. Implementation of this measure would reduce potential risks from stormwater runoff to less than significant.

***f) Otherwise substantially degrade water quality?***

1 **Less than Significant with Mitigation.** As discussed above in the response to part a),  
2 the resuspension of sediment material into the water column may increase  
3 concentrations of settled methylmercury within the waters located within the immediate  
4 Project area. Resuspension of sediment in association with this disturbance would  
5 increase the amount of the neurotoxin within the water column and would cause a  
6 temporary decrease in water quality until gradual resettlement downstream could occur.  
7 Impacts would be localized and short-term, as water conditions would be expected to  
8 return to natural conditions following Project completion. Although this impact would  
9 increase the amount of methylmercury in the immediate water column during Project  
10 activities, it would not increase the total amount of methylmercury in the Delta. It is  
11 anticipated that due to the existing scour and currents (as evidenced within the Desktop  
12 Study San Joaquin River Pipeline Crossing Remediation Project, Sacramento - San  
13 Joaquin Delta, California, [Fugro, 2006]), the temporary increase in sediment movement  
14 along the river bottom would be similar to other high scour events such as storms or  
15 other seasonal fluctuations.

16 As detailed in the Delta Mercury Control Program discussion (Section 3.9.1), studies  
17 and pilot projects are underway to develop and evaluate BMPs and strategies to control  
18 methylmercury. However, these recommendations are not anticipated to be completed  
19 until 2019. As such, no guidelines currently exist regarding temporary resuspension of  
20 riverbed sediments during temporary pipeline removal activities. However, to reduce the  
21 potential for water quality impacts during the decommissioning Project work, an  
22 environmental monitor (or up to three environmental monitors depending on Project  
23 activities) would be present at each work site (**MM BIO-2: Biological Compliance  
24 Monitoring Program**) Project environmental monitors would be required to conduct  
25 daily water quality sampling and would have the authority to issue stop work orders, if  
26 required, to ensure, in conjunction with the decommissioning contractor and PG&E staff,  
27 that non-compliance remedies are fully implemented. Implementation of these MMs  
28 would reduce potential impacts to water quality from resuspension of riverbed  
29 sediments including potential methylmercury to less than significant.

30 ***g) Place housing within a 100-year flood hazard area as mapped on a Federal  
31 Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard  
32 delineation map?***

33 **No Impact.** The Project does not include the construction of any structures. No housing  
34 is proposed. No impact would result.

35 ***h) Place within a 100-year flood hazard area structures which would impede or  
36 redirect flood flows?***

37 **No Impact.** The Project includes the removal of existing pipeline structures within the  
38 100-year flood plain located on Sherman Island in Sacramento County. Following the

removal of pipelines, the area would be backfilled and restored to pre-Project conditions. No redirection of flows would occur. The Project does not include the construction or operation of any new structures or facilities. Furthermore, no housing or human-occupied structures are located within the area. No impact would result.

***i) Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam?***

**Less than Significant Impact.** The Project is not located within an area subject to mudflows or tsunamis. The Project includes the removal of an existing pipeline which crosses the Sherman Island East Levee Road. The Sherman Island East Levee Road protects the area within the 100-year flood plain. Project activities within the northern landing vault area would require trenching through the existing levee. Following the removal of pipelines, the area would be backfilled and restored to pre-Project conditions. Due to the temporary nature of onshore Project activities (approximately 35 days), impacts would be temporary. Furthermore, no housing or human-occupied structures are located within the area. Impacts would be less than significant.

***j) Inundation by seiche, tsunami, or mudflow?***

**No Impact.** The Project is not located within an area subject to mudflows or tsunamis. The Project includes the removal of existing pipeline which crosses the Sherman Island East Levee Road. According to the Sacramento County General Plan, "Delta levees are subject to overtopping and subsequent failure" from seiches generated by earthquakes. Project activities within the northern landing vault area would require trenching through the existing levee. However, following the removal of pipelines, the area would be backfilled and restored to pre-Project conditions. Pipeline removal activities would be localized and last only as long as necessary to remove all pipeline segments and appurtenant facilities (approximately 35 days). Due to the temporary nature of levee trenching activities, impacts associated within earthquake generated seiches would be minimal. No impact would result.

### **3.9.4 Mitigation Summary**

Implementation of the following MMs would reduce the potential for Project-related impacts to hydrology and water quality to less than significant.

- MM WQ-1: Surface Water Protection.
- MM HAZ-1: Oil Spill Response Plan.
- MM HAZ-2: Marine Safety and Anchoring Plan.
- MM HAZ-3: Pre- and Post-Decommissioning Surveys.
- MM HAZ-4: Pig/Clean Pipeline Interiors.
- MM BIO-2: Biological Compliance Monitoring Program.

1 **3.10 LAND USE AND PLANNING**

<b>LAND USE AND PLANNING - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Physically divide an established community?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Conflict with any applicable habitat conservation plan or natural community conservation plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.10.1 Environmental Setting**

3 The Project is located primarily within the San Joaquin River which serves as the  
 4 boundary between Sacramento County (to the north) and Contra Costa County (to the  
 5 south). In addition, some onshore activities are proposed within the onshore pipeline  
 6 landings located within each County.

7 **3.10.1.1 Sacramento County**

8 The northern landing of the Project pipeline is located within an onshore subterranean  
 9 valve pit on Sherman Island located in Sacramento County. According to the  
 10 Sacramento General Plan Land Use Diagram (County of Sacramento 2011), this portion  
 11 of the Project is located within an area designated for "Recreation" and adjacent to  
 12 lands designated for "Agricultural Cropland."

13 **3.10.1.2 Contra Costa County**

14 The southern landing of the pipeline corridor comes ashore at the Lauritzen Yacht  
 15 Harbor in the City of Oakley and terminates in a subterranean valve pit. The Lauritzen  
 16 Yacht Harbor is an area designated by the City of Oakley (2010) and Contra Costa  
 17 County (2010) as "Commercial Recreation." Adjacent land uses are designated as  
 18 "Parks and Recreation" (the Antioch-Oakley Regional Shoreline Recreational Area  
 19 which is located approximately 530 feet from the Project) and "Light Industrial" (the  
 20 former DuPont "Antioch Facility" Property) (County of Contra Costa 2010).

1    **3.10.2 Regulatory Setting**

2    3.10.2.1       Federal and State

3    There are no Federal or State laws and regulations pertaining to this issue area relevant  
4    to the Project. Regional and local goals, policies, and/or regulations applicable to the  
5    Project are listed below.

6    3.10.2.2       Local

7    **Sacramento County**

8    The following Land Use Policies for Sacramento County are applicable to the Project  
9    (County of Sacramento 2011).

- 10       • Policy LU-31: Strive to achieve a natural nighttime environment and an  
11       uncompromised public view of the night sky by reducing light pollution.
- 12       • Policy LU-116: The County shall consult with state and federal regulatory and  
13       resource agencies during initial review of development projects to identify  
14       potential environmental conflicts and establish, if appropriate, concurrent  
15       application processing schedules.
- 16       • Policy LU-117: The County will provide information to applicants with projects in  
17       potential wetland or natural resource areas and provide coordination assistance  
18       with such entities as the USACE, the U.S. Fish and Wildlife Service and the  
19       California Department of Fish and Game in order to facilitate development review  
20       and permit review process.

21   **Contra Costa County**

22   The following LU Policies and Goals for Contra Costa County are applicable to the  
23   Project.

- 24       • Conservation Element Goal 8-A: To preserve and protect the ecological  
25       resources of the County.
- 26       • Conservation Element Policy 8-3: Watersheds, natural waterways, and areas  
27       important for the maintenance of natural vegetation and wildlife populations shall  
28       be preserved and enhanced.
- 29       • Open Space Element Goal 9-A: To preserve and protect the ecological, scenic  
30       and cultural/historic, and recreational resource lands of the County.
- 31       • Open Space Element Policy 9-2: Historic and scenic features, watersheds,  
32       natural waterways, and areas important for the maintenance of natural vegetation  
33       and wildlife populations shall be preserved and enhanced.

- Open Space Element Goal 9-12: To preserve the scenic qualities of the San Francisco Bay/Delta estuary system and the Sacramento-San Joaquin River/Delta Shoreline.

#### City of Oakley

The City's 2020 General Plan Land Use Element identifies the following policy that is applicable to the Project:

- Policy 2.6.2: Preserve, enhance and/or restore selected existing natural habitat areas, as feasible.

#### Delta Protection Commission (DPC)

The northern boundary of the City is located along the eastern edge of the San Joaquin Delta, and the City's boundary extends approximately 200 feet into the area defined as the Primary Zone of the Delta. This area is subject to the jurisdiction of the DPC. The DPC produces reports and proposes policies aimed at protecting, maintaining and restoring the Sacramento-San Joaquin Delta region.

#### Association of Bay Area Governments (ABAG)

ABAG is a regional planning agency for the San Francisco Bay region, which consists of nine counties and 101 cities and more than seven million people. ABAG works to address regional issues such as housing, transportation, economic development, education, and environment through advocacy and collaboration among local governments. As an advisory organization, ABAG has limited statutory authority.

### 3.10.3 Impact Analysis

#### *a) Physically divide an established community?*

**No Impact.** The Project includes the removal of the three natural gas lines (Line 114-1, Line 114-1, and Line SP4Z), which are no longer in use, from across the Sherman Island levee and the San Joaquin River to a valve pit at the Lauritzen Yacht Harbor. The removal of the lines would not divide an established community. No impact would result.

#### *b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the Project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect?*

**No Impact.** The Project involves the decommissioning and removal of three existing inactive gas pipelines (Line 114, Line 114-1, and Line SP4Z), and does not include the

1 construction of any new structures or the incorporation of new land uses. In addition, the  
2 Project would not result in the loss of any open space. Removal activities and site  
3 restoration would return these areas to their previous, and or natural, state resulting in  
4 improved quality of open space, which is in accordance with the policies outlined within  
5 the Contra Costa County Open Space Element. The Project would not conflict with any  
6 other applicable land use plan, policy, or regulation of an agency with jurisdiction over  
7 the Project.

8 Physical changes to the Project site(s) such as the offshore excavation and subsequent  
9 removal of the three pipelines would not conflict with present or future uses of the site.  
10 Portions of the pipelines are spanned near the north landing of the crossing (offshore  
11 Sherman Island) with span lengths up to approximately 125 feet in length and elevated  
12 as much as approximately 6 feet above the riverbed. Thus the removal of the pipelines  
13 would, in some portions of the San Joaquin River, allow for greater or safer use of the  
14 area by recreational boaters. No impact would result.

15 ***c) Conflict with any applicable habitat conservation plan or natural community***  
16 ***conservation plan?***

17 **No Impact.** The upland portion of the south landing may be within the Urban  
18 Development Area of the planning area for the ECCC HCP/NCCP; however, the  
19 requirements of the ECCC HCP/NCCP are generally applicable to development projects  
20 that affect open space and wildlife habitat with the planning area. No ground-disturbing  
21 activities or land use change would occur on the Contra Costa County side of the  
22 Project. In addition, the San Joaquin River is outside of the planning area. Therefore, no  
23 conflict is anticipated.

24 **3.10.4 Mitigation Summary**

25 The Project would not result in impacts to land use and planning; therefore, no  
26 mitigation is required.

### 3.11 MINERAL RESOURCES

<b>MINERAL RESOURCES - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in the loss of availability of a known mineral resource that would be of value to the region and the residents of the State?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 3.11.1 Environmental Setting

##### 3.11.1.1 Regional Setting

According to the Desktop Study San Joaquin River Pipeline Crossing Remediation Project, Sacramento - San Joaquin Delta, California (Fugro 2006), sand mining by dredging of the river bottom sediments occurs within the Delta. Large mining operations use hydraulic and clam-shell dredges and barges to transport the dredged materials. The materials are often "washed," sorted, and sold for use primarily as construction or industrial materials. A preliminary review of CSLC records indicates there are currently no active mining leases in the study area.

##### 3.11.1.2 Site Specific Setting

#### Sacramento County

According to the Sacramento Delta Community Plan (County of Sacramento 1983), Sacramento County is rich in two types of mineral resources: 1) highly productive alluvial soil and 2) natural gas and natural gas-associated by-products. Please refer to Sections 3.2, Agriculture and Forest Resources, and 3.6, Geology and Soils, for detail regarding alluvial soils in the Project area.

According to the Division of Oil, Gas, and Geothermal Resources (DOGGR 2015), there are six active natural gas fields and two abandoned gas fields in the Sacramento River Delta. Wells in these fields generally produce a non-associated gas (dry gas), condensate (similar to kerosene), and water. The nearest inactive natural gas field to the Project site is the Sherman Island Natural Gas Field located approximately 1.75 miles northeast of the nearest Project component on Sherman Island. The nearest active natural gas field is the Stone Lake Natural Gas Field located more than 5 miles from the Project site. No crude oil fields are known to exist in the area (County of Sacramento 1983).



At the north landing the valve pit excavation would be backfilled and matched with existing levee slope with native soil acceptable to the CVFPB/RD 341 and compacted to CVFPB/RD 341 requirements (to Title 23 Standards). The Sherman Island East Levee Road would also be backfilled and compacted (to Title 23 Standards). Assuming no contaminated soil is found under or around the valve pit and no excavation work is required to remove contaminated soil, the valve pit excavation would require approximately 15 cy of imported native backfill (clean, screened dirt excavated from the slopes of Mount Diablo).

## Contra Costa County

The most important mineral resources currently mined in Contra Costa County include crushed rock near Mt. Zion in the Concord area; shale in the Port Costa area; and sand and sandstone deposits, mined from several locations in the Byron area of southeast County. According to the Contra Costa County General Plan Conservation Element (County of Contra Costa 2010), the nearest mineral resource area to the Project site is located more than 11 miles to the southwest near Mount Zion. In addition to those minerals listed above, Contra Costa County is one of the leading counties in the State in terms of natural gas production and also has a small volume of oil production (County of Contra Costa 2010). The nearest gas field (River Break Gas Field) is located in the City more than 1.8 miles to the southeast of the southern landing valve pit, the nearest Project component.

### 3.11.2 Regulatory Setting

#### 3.11.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.11-1.

**Table 3.11-1. Laws, Regulations, and Policies (Mineral Resources)**

CA	Surface Mining and Reclamation Act (SMARA) (Pub. Resources Code, §§ 2710-2796)	<p>In accordance with SMARA, the California Geological Survey classifies the regional significance of mineral resources and assists in the designation of lands containing significant aggregate resources. The following Mineral Resource Zones (MRZs) have been designated to indicate the significance of mineral deposits:</p> <ul style="list-style-type: none"> <li>• MRZ-1: Areas where adequate information indicates that no significant mineral deposits are present or where it is judged that little likelihood exists for their presence.</li> <li>• MRZ-2: Areas where adequate information indicates significant mineral deposits are present, or where it is judged that a high likelihood exists for their presence.</li> <li>• MRZ-3: Areas containing mineral deposits the significance of which cannot be evaluated from available data.</li> <li>• MRZ-4: Areas where available information is inadequate for assignment to any other MRZ.</li> </ul>
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1 3.11.2.2 Local

2 There are no local conservation goals or policies with respect to mineral resources that  
3 are applicable to the Project site.

4 **3.11.3 Impact Analysis**

5 ***a) Result in the loss of availability of a known mineral resource that would be of***  
6 ***value to the region and the residents of the State?***

7 Approximately 15 cy of imported native backfill (clean, screened dirt excavated from the  
8 slopes of Mount Diablo) would be required to fill the north landing valve pit excavation  
9 and match it with existing levee slope. Due to the small amount of fill required, there  
10 would be no impact to mineral resources in the region.

11 ***b) Result in the loss of availability of a locally important mineral resource***  
12 ***recovery site delineated on a local general plan, specific plan or other land use***  
13 ***plan?***

14 **a) and b). No Impact.** The Project includes the final decommissioning and removal of  
15 three offshore pipelines from waters in the San Joaquin River Delta. Decommissioning  
16 and removal of the Project would not result in the loss of any known mineral resources  
17 or resource recovery sites in the area. In addition, as the total surface area disturbed is  
18 less than 1 acre, SMARA would not apply to the Project. The Project would not conflict  
19 with any Federal, State or local mineral use policies. No impacts would result.

20 **3.11.4 Mitigation Summary**

21 The Project would not result in impacts to mineral resources; therefore, no mitigation is  
22 required.

# 1 **3.12 NOISE**

<b>NOISE - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Result in exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Result in exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Result in a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Result in a substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

## 2 **3.12.1 Environmental Setting**

### 3 3.12.1.1 General Characteristics of Noise

4 Noise is generally defined as unwanted or objectionable sound. Human ears respond to  
5 a very wide range of sound pressures producing numbers of awkward size when sound  
6 pressures are related on an arithmetic (1, 2, 3...) scale. It has therefore become  
7 customary to express sound pressure level in decibels (dB), which are logarithmic (1,  
8 10, 100...) ratios comparing sound pressures to a reference pressure. The reference  
9 pressure commonly used in noise measurement is 20 microPascals (μPa or rms), which  
10 is considered to be the quietest sound a normal young adult human ear can hear in the  
11 frequency range that the ear is most sensitive to. This sound level is assigned the value  
12 0 dB. Higher intensity sound is perceived as louder. Sound intensity is commonly  
13 measured on a weighted scale [dBA or db(A)] to correct for the relative frequency  
14 response of the human ear. The “A-weighted” noise level de-emphasizes low and very  
15 high frequencies of sound in a manner similar to the human ear’s de-emphasis of these  
16 frequencies.

1 According to the Contra Costa County General Plan Noise Element (County of Contra  
2 Costa 2014), except under special conditions, a change in sound level of 1 dB cannot  
3 be perceived. Outside of the laboratory, a 3 dB change is considered a just-noticeable  
4 difference and a change in level of at least 5 dB is required before any noticeable  
5 change in community response would be expected. Some typical sound pressure levels  
6 for common sounds are provided in Table 3.12-1 below.

**Table 3.12-1. Common Sound Levels/Sources and Subjective Human Responses**

Sound Level (dBA)	Typical Outdoor Noise Source	Typical Indoor Noise Sources	Typical Human Response/Effects
140	Carrier Jet takeoff (50 feet)	--	--Threshold for Pain--
130	Siren (100 feet) Live Rock Band	--	---Hearing Damage---
120	Jet takeoff (200 feet) Auto horn (3 feet)	--	--
110	Chain Saw Snow Mobile	--	---Deafening---
100	Lawn Mower (3 feet) Motorcycle (50 feet)	--	--
90	Heavy Duty Truck (50 feet)	Food Blender (3 feet)	---Very Loud---
80	Busy Urban Street, Daytime	Garbage Disposal (3 feet)	
70	Automobile (50 feet)	Vacuum Cleaner (9 feet)	---Loud---
60	Small plane at ¼ mi	Conversation (3 feet)	
50	Quiet Residential Daytime	Dishwasher Rinse (10 feet)	---Moderate---
40	Quiet Residential Nighttime	Quiet Home Indoors	---Quiet---
30	Slight Rustling of Leaves	Soft Whisper (15 feet)	---Very Quiet---
20	--	Broadcasting Studio	
10	--	Breathing	--Barely Audible--
0	--	--	--Threshold of Hearing--

7 When considering how noise could affect nearby sensitive receptors (residential  
8 dwellings, transient lodging, hospitals and other long-term care facilities, public or  
9 private educational facilities, libraries, churches, and places of public assembly), it is  
10 important to understand how sound level diminishes as distance from the source  
11 increases. For a “point” source (such as construction within a fixed area) of sound in  
12 free space, the rate at which the sound attenuates is inversely proportional to the  
13 square of the distance from the source. This means the sound level would drop 6 dB  
14 each time the distance from the source is doubled.

15 Decibels, measuring sound energy, combine logarithmically. A doubling of sound  
16 energy (for instance, from two identical automobiles passing simultaneously) creates a  
17 3 dB increase (i.e., the resultant sound level is the sound level from a single passing  
18 automobile plus 3 dB). When the difference between two sound levels is greater than  
19 about 10 dB, the lesser sound is negligible in terms of affecting the total level.

### 3.12.1.2 Site-Specific Noise Environment

The duration of noise and the time period at which it occurs are important factors in determining impacts on noise-sensitive land uses. The nearest noise-sensitive land use to the offshore Project area is the Antioch-Oakley Regional Shoreline Recreation Area located approximately 290 feet from the southern landing of the pipeline corridor. The subterranean valve pit is located within the Lauritzen Yacht Harbor, a privately owned marina that provides berths for recreational boaters, a gas dock and, launching facilities. Although the Sacramento County General Plan Land Use Map (County of Sacramento 2011) indicates that the northern portion of the Project area is zoned for recreational use, no sensitive noise receptors are located near enough to the northern pipeline corridor terminus in Sacramento County to be affected by Project activities.

Noise associated with these areas is primarily associated with Senator John A. Nejedly Bridge (Antioch Bridge - SR 160) and (within the southern landing area of the Project site) commercial and recreational activities associated with the Lauritzen Yacht Harbor.

### 3.12.2 Regulatory Setting

#### 3.12.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.12-2.

**Table 3.12-2. Laws, Regulations, and Policies (Noise)**

U.S.	<p>The Noise Control Act (42 USC 4910) required the USEPA to establish noise emission criteria, as well as noise testing methods (40 CFR Chapter 1, Subpart Q). These criteria generally apply to interstate rail carriers and to some types of construction and transportation equipment. The USEPA published a guideline (USEPA 1974) containing recommendations for acceptable noise level limits affecting residential land use of 55 dBA <math>L_{dn}</math> for outdoors and 45 dBA <math>L_{dn}</math> for indoors.</p> <ul style="list-style-type: none"> <li>• The Department of Housing and Urban Development Environmental Standards (24 CFR Part 51) set forth the following exterior noise standards for new home construction (for interior noise levels, a goal of 45 dBA is set forth and attenuation requirements are geared to achieve that goal): <ul style="list-style-type: none"> <li>○ 65 <math>L_{dn}</math> or less - Acceptable</li> <li>○ 65 <math>L_{dn}</math> and &lt; 75 <math>L_{dn}</math> - Normally unacceptable, appropriate sound attenuation measures must be provided</li> <li>○ &gt; 75 <math>L_{dn}</math> - Unacceptable</li> </ul> </li> <li>• Federal Highway Administration Noise Abatement Procedures (23 CFR Part 772) are procedures for noise studies and noise abatement measures to help protect the public health and welfare, to supply noise abatement criteria, and to establish requirements for information to be given to local officials for use in the planning and design of highways. It establishes five categories of noise sensitive receptors and prescribes the use of the Hourly <math>L_{eq}</math> as the criterion metric for evaluating traffic noise impacts.</li> <li>• Federal Energy Regulatory Commission (FERC) Guidelines On Noise Emissions From Compressor Stations, Substations, And Transmission Lines (18 CFR 157.206(d)(5)) require that "the noise attributable to any new compressor stations, compression added to an existing</li> </ul>
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**Table 3.12-2. Laws, Regulations, and Policies (Noise)**

	<p>station, or any modification, upgrade or update of an existing station, must not exceed a <math>L_{dn}</math> of 55 dBA at any pre-existing noise sensitive area (such as schools, hospitals, or residences)."</p> <p>NTIS 550\9-74-004, 1974 ("Information on Levels of Environmental Noise Requisite to Protect Health and Welfare with an Adequate Margin of Safety"). In response to a Federal mandate, the USEPA provided guidance in this document, commonly referenced as the, "Levels Document," that establishes an <math>L_{dn}</math> of 55 dBA as the requisite level, with an adequate margin of safety, for areas of outdoor uses including residences and recreation areas. The USEPA recommendations contain a factor of safety and do not consider technical or economic feasibility (i.e., the document identifies safe levels of environmental noise exposure without consideration for achieving these levels or other potentially relevant considerations), and therefore should not be construed as standards or regulations.</p>
CA	<p>State regulations for limiting population exposure to physically and/or psychologically significant noise levels include established guidelines and ordinances for roadway and aviation noise under California Department of Transportation as well as the now defunct California Office of Noise Control. The California Office of Noise Control land use compatibility guidelines provided the following:</p> <ul style="list-style-type: none"> <li>• An exterior noise level of 60 to 65 dBA Community Noise Equivalent Level (CNEL) is considered "normally acceptable" for residences.</li> <li>• A noise level of 70 dBA CNEL is considered to be "conditionally acceptable" (i.e., the upper limit of "normally acceptable" noise levels for sensitive uses such as schools, libraries, hospitals, nursing homes, churches, parks, offices, and commercial/professional businesses).</li> <li>• A noise level of greater than 75 dBA CNEL is considered "clearly unacceptable" for residences.</li> </ul>

1 3.12.2.2 Local

2 **Sacramento County**

3 The Sacramento County General Plan (County of Sacramento 2011) includes  
 4 discussion regarding non-transportation noise sources Policy No. 8 that states that  
 5 noise associated with construction activities shall adhere to the County Code  
 6 requirements. Section 6.68.090(e) exempts the following activities from the noise code:

- 7 • Policy 8-e: Noise sources associated with construction, repair, remodeling,  
 8 demolition, paving or grading of any real property, provided said activities do not  
 9 take place between the hours of eight p.m. and six a.m. on weekdays and Friday  
 10 commencing at 8:00 p.m. through and including 7:00 a.m. on Saturday;  
 11 Saturdays commencing at 8:00 p.m. through and including 7:00 a.m. on the next  
 12 following Sunday and on each Sunday after the hour of 8:00 p.m. Provided,  
 13 however, when an unforeseen or unavoidable condition occurs during a  
 14 construction project and the nature of the project necessitates that work in  
 15 process be continued until a specific phase is completed, the contractor or owner  
 16 shall be allowed to continue work after 8:00 p.m. and to operate machinery and  
 17 equipment necessary until completion of the specific work in progress can be  
 18 brought to conclusion under conditions which will not jeopardize inspection  
 19 acceptance or create undue financial hardships for the contractor or owner.

## Contra Costa County

The Contra Costa County General Plan (County of Contra Costa 2010) includes discussion regarding construction noise minimization measures. The following goals and policies are applicable to the proposed Project.

- Goal 11-B: To maintain appropriate noise conditions in all areas of the County.
- Goal 11-E: To recognize citizen concerns regarding excessive noise levels, and to utilize measures through which the concerns can be identified and mitigated.
- Policy 11-8: Construction activities shall be concentrated during the hours of the day that are not noise-sensitive for adjacent land uses and should be commissioned to occur during normal work hours of the day to provide relative quiet during the more sensitive evening and early morning periods.

## City of Oakley

The City's 2020 General Plan (City of Oakley 2010) Noise Element identifies goals and policies applicable to the proposed Project below.

- Goal 9.1: Protect residents from the harmful and annoying effects of exposure to excessive noise.
- Policy 9.1.3: Noise created by new proposed non-transportation noise sources shall be mitigated so as not to exceed the noise level standards as measured immediately within the property line of lands designated for noise-sensitive uses.

The City's 2020 General Plan, Noise Element includes noise performance standards, reported as equivalent continuous sound levels (Leq), for new projects affected by or including non-transportation noise sources (Table 3.12-3). The Leq is the total sound energy as averaged over a sample period.

**Table 3.12-3. City of Oakley Noise Standards**

Noise Level Descriptor	Daytime (7:00 a.m. to 10:00 p.m.)	Nighttime (10:00 p.m. to 7:00 a.m.)
Hourly Leq dBA	55	45

Notes: dBA: A-frequency weighted decibels

Leq is the average sound level over a specified period of time (one hour)

Source: City of Oakley 2020 General Plan (2010)

In addition to the General Plan goals and policies, the City's municipal code prohibits operation or performance of construction or repair work (which creates noise) within or adjacent to a residential land use district except during the following hours: 1) Monday through Friday: 7:30 a.m. to 7:00 p.m. and 2) Saturday, Sunday, and holidays: 9:00 a.m. to 7:00 p.m.

### 3.12.3 Impact Analysis

#### ***a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies?***

**Less than Significant with Mitigation.** The Project includes the temporary use of standard construction equipment onshore as well as offshore on the decks of Project vessels. Noise associated with construction equipment generally ranges from approximately 80 dBA to approximately 85 dBA (U.S. Department of Transportation [USDOT] and Federal Highway Administration [FHWA] 2006). Several noise sensitive receptors (Lauritzen Yacht Harbor and Recreational Park) are located adjacent to the southern landing and valve pit and would be affected by noise associated with the temporary use of construction equipment. The Project would therefore be required to limit work hours within the City to Monday through Friday: 7:30 a.m. to 7:00 p.m. and Saturday, Sunday, and holidays: 9:00 a.m. to 7:00 p.m. (**MM N-1: Construction Timing**).

**MM N-1: Construction Timing.** Onshore decommissioning work shall be conducted during daylight hours only. Monday through Friday: 7:30 a.m. to 7:00 p.m. and Saturday, Sunday, and holidays: 9:00 a.m. to 7:00 p.m.

Offshore, noise would be primarily limited to Project vessel engines and equipment. As with onshore areas, sensitive receptors within the offshore Project area would be limited to the recreational area adjacent to Lauritzen Yacht Harbor. Offshore work schedules would include some work on weekends and evening hours (the schedule is based on working no more than 6 days per week, one 10-hour shift per day). As such, offshore noise would include some minor impacts from nighttime noise. According to USEPA guidelines in 1971, average total construction noise is generally about 95 dBA at approximately 50 feet distance from the source (USEPA 1971). Since an approximately 6 dB drop occurs with a doubling of the distance from the source, locations within 1,600 feet of the construction site would be affected by noise levels over 65 dBA. The total horizontal length of the submarine pipeline crossing segment is approximately 3,519 feet in length as measured from the northern submarine pipeline cut point to the southern submarine pipeline cut point. A majority of Project activities would occur within areas outside the construction noise range of 1,600 feet from the nearest receptors. As the Project progresses, distances would become further from these sensitive areas. Due to the temporary and transitory nature of pipeline removal activities, and with the implementation of **MM N-1**, impacts to sensitive receptors due to noise from Project vessels and equipment would be less than significant.

#### ***b) Exposure of persons to or generation of excessive ground-borne vibration or ground-borne noise levels?***



**No Impact.** Impacts from ground-borne vibration generally occur when intense construction activities, such as pile driving or the movement of large earthmoving equipment, are in close proximity to sensitive receptors, either people or structures. No activities that would generate substantial ground-borne vibration or noise are included as part of the Project. No impact would result.

***c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project?***

**No Impact.** The Project would last from approximately August 1 through October 31, 2015 and would not create a permanent source of noise. No long-term impacts to ambient noise levels would result.

***d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project?***

**Less than Significant with Mitigation.** Due to the temporary nature of Project activities, with the implementation of **MM N-1**, an increase in noise levels due to Project vessels and equipment, would be less than significant (see full discussion in Section 3.12.3 (a), above).

***e) For a project located within an airport land use plan or, where such a plan has not been adopted, within 2 miles of a public airport or public use airport, would the project expose people residing or working in the project area to excessive noise levels?***

**No Impact.** The Project site is not within an airport land use planning area or within 2 miles of a public airport or public use airport.

***f) For a project within the vicinity of a private airstrip, would the project expose people residing or working in the project area to excessive noise levels?***

**No Impact.** The Project site is not within 2 miles of a private air strip.

#### **3.12.4 Mitigation Summary**

Implementation of the following MM would reduce the potential for Project-related impacts to noise to less than significant.

- MM N-1: Construction Timing.

### 1 3.13 POPULATION AND HOUSING

<b>POPULATION AND HOUSING - Would the Project:</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.13.1 Environmental Setting

3 The onshore portion of the Project site is located at the Lauritzen Yacht Harbor in the  
 4 City in eastern Contra Costa County (southern landing) and within a levee at Sherman  
 5 Island in southern Sacramento County (northern landing). There is no housing currently  
 6 on either onshore portion of the Project site(s). Project vessels for offshore work would  
 7 mobilize from a local port, most likely Mare Island, which is located approximately 30  
 8 miles west of the Project corridor in an industrially-developed area. The nearest  
 9 residential community to the Project site is the City, located adjacent to the southern  
 10 landing. Table 3.13-1 shows the total population and number of housing units in  
 11 Sacramento and Contra Costa Counties and the City. The percentage of occupied  
 12 housing units is relatively consistent throughout this geographical area.

**Table 3.13-1. Population and Housing Summary**

<b>County/City</b>	<b>Total Population</b>	<b>Total Housing Units</b>	<b>Percentage (%) Occupied</b>
<b>Contra Costa County</b>	948,816	394,857	92.8%
<b>Sacramento County</b>	1,223,499	550,498	91.5%
<b>City of Oakley</b>	25,619	10,100	93.1%

Source: U.S. Census 2014, U.S. Census 2000 Summary File (DP-1) and U.S. Census 2007-2009 American Community 3-Year Survey (DP04)

#### 13 3.13.2 Regulatory Setting

##### 14 3.13.2.1 Federal and State

15 No Federal or State laws relevant to this issue area are applicable to the Project. Local  
 16 goals, policies, and/or regulations applicable to this issue area are listed below.

1    3.13.2.2        Local

2    The General Plan Housing Elements Contra Costa and Sacramento Counties and the  
3    City include goals and policies to help the Counties and City meet their defined housing  
4    needs. No housing goals or policies are applicable to the Project site or Project.

5    **3.13.3 Impact Analysis**

6    ***a) Induce substantial population growth in an area, either directly (for example, by***  
7    ***proposing new homes and businesses) or indirectly (for example, through***  
8    ***extension of roads or other infrastructure)?***

9    **No Impact.** The Project would not affect growth. Its purpose is to remove out-of-service  
10    pipelines. Persons working on the Project during the approximate 3-month construction  
11    period may contribute to a slight increase in demand for temporary (rental) housing or  
12    hotel amenities; however, the small number of construction personnel employed would  
13    not create a significant demand for housing or displace substantial existing housing  
14    available. The Project would not change the site zoning or general plan designation,  
15    does not include home or business construction, and would not extend infrastructure  
16    that could accommodate future growth into areas that are currently undeveloped.

17    ***b) Displace substantial numbers of existing housing, necessitating the***  
18    ***construction of replacement housing elsewhere?***

19    **No Impact.** Pipeline removal would not displace housing, necessitating the construction  
20    of replacement housing elsewhere.

21    ***c) Displace substantial numbers of people, necessitating the construction of***  
22    ***replacement housing elsewhere?***

23    **No Impact.** Pipeline removal would not displace people, necessitating the construction  
24    of replacement housing elsewhere.

25    **3.13.4 Mitigation Summary**

26    The Project would not result in significant impacts to population and housing; therefore,  
27    no mitigation is required.

1 **3.14 PUBLIC SERVICES**

<b>PUBLIC SERVICES</b>	<b>Potentially Significant Impact</b>	<b>Less Than Significant with Mitigation</b>	<b>Less Than Significant Impact</b>	<b>No Impact</b>
a) Would the Project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:				
Fire protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Police Protection?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Schools?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Parks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Other public facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

2 **3.14.1 Environmental Setting**

3 The Project site is primarily located offshore within the San Joaquin River and east of  
 4 the Senator John A. Nejedly Bridge (Antioch Bridge - SR 160). The San Joaquin River  
 5 acts as the jurisdictional boundary between Sacramento County (to the north) and  
 6 Contra Costa County (to the south). In addition, the Senator John A. Nejedly Bridge  
 7 (Antioch Bridge - SR 160) acts as the jurisdictional boundary between the City of  
 8 Antioch (to the west) and the City (to the east). As such, public services within the  
 9 Project area may be provided by several local agencies or organizations.

10 The southern landing valve pit is located within the City. Police protection in this area is  
 11 provided by the Oakley Police Department. Oakley Disposal Service provides garbage  
 12 recycling and green waste collection service. The Ironhouse Sanitary District operates  
 13 the City's sewer system and a facility to treat and dispose of wastewater. The Contra  
 14 Costa Sheriff Department operates a Marina Patrol Support Services facility on  
 15 Bridgehead Road and launches boats from the Lauritzen Yacht Harbor directly adjacent  
 16 to the Project site. The nearest school facilities are the Orchard Elementary School  
 17 located approximately 1.3 miles south of the Project site.

18 The northern landing of the pipeline corridor is located within an unincorporated portion  
 19 of Sacramento County on Sherman Island. According to the Sacramento County Delta  
 20 Community Area Plan (County of Sacramento 1983), this portion of Sacramento County  
 21 includes some of the most physically remote areas in the County and the provisions of  
 22 public services and facilities within this area is minimal. Police protection is generally  
 23 provided by the Sacramento County Sheriff's Department. The Sheriff also maintains  
 24 primary responsibility for County waterways (including Project portions of the San  
 25 Joaquin River) with occasional aid from the USCG. Fire protection is reliant heavily on  
 26 volunteers and according to the Delta Community Area Plan, the southern portion of

- 1 Sherman Island (including the Project area) is located outside of any specific fire district.
- 2 The Project area is located within the River Delta Unified School District; however, no
- 3 schools are located near the northern landing. No other parks or public facilities are
- 4 located within the immediate Project area.

### 5 3.14.2 Regulatory Setting

#### 6 3.14.2.1 Federal and State

- 7 Federal and State laws and regulations pertaining to this issue area and relevant to the
- 8 Project are identified in Table 3.14-1.

**Table 3.14-1. Laws, Regulations, and Policies (Public Services)**

<b>U.S.</b>	Code of Federal Regulations	<ul style="list-style-type: none"> <li>• Under 29 CFR 1910.38, whenever an Occupational Safety and Health Administration (OSHA) standard requires one, an employer must have an Emergency Action Plan that must be in writing, kept in the workplace, and available to employees for review. An employer with 10 or fewer employees may communicate the plan orally to employees. Minimum elements of an emergency action plan are: <ul style="list-style-type: none"> <li>○ Procedures for reporting a fire or other emergency;</li> <li>○ Procedures for emergency evacuation, including type of evacuation and exit route assignments;</li> <li>○ Procedures to be followed by employees who remain to operate critical plant operations before they evacuate;</li> <li>○ Procedures to account for all employees after evacuation;</li> <li>○ Procedures to be followed by employees performing rescue or medical duties; and</li> <li>○ The name or job title of every employee who may be contacted by employees who need more information about the plan or an explanation of their duties under the plan.</li> </ul> </li> <li>• Under 29 CFR 1910.39, an employer must have a Fire Prevention Plan (FPP). A FPP must be in writing, be kept in the workplace, and be made available to employees for review; an employer with 10 or fewer employees may communicate the plan orally to employees. Minimum elements of a FPP are: <ul style="list-style-type: none"> <li>○ A list of all major fire hazards, proper hazardous material handling and storage procedures, potential ignition sources and their control, and the type of fire protection equipment necessary to control each major hazard;</li> <li>○ Procedures to control accumulations of flammable and combustible waste materials;</li> <li>○ Procedures for regular maintenance of safeguards installed on heat-producing equipment to prevent the accidental ignition of combustible materials;</li> <li>○ The name or job title of employees responsible for maintaining equipment to prevent or control sources of ignition or fires; and</li> <li>○ The name or job title of employees responsible for the control of fuel source hazards.</li> <li>○ An employer must inform employees upon initial assignment to a job of the fire hazards to which they are exposed and must also review with each employee those parts of the FPP necessary for self-protection.</li> </ul> </li> <li>• Under 29 CFR 1910.155, Subpart L, Fire Protection, employers are required to place and keep in proper working order fire safety equipment within</li> </ul>
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**Table 3.14-1. Laws, Regulations, and Policies (Public Services)**

		facilities.
<b>CA</b>	California Code of Regulations	Under Title 19, Public Safety, the California State Fire Marshal (CSFM) develops regulations relating to fire and life safety. These regulations have been prepared and adopted to establish minimum standards for the prevention of fire and for protection of life and property against fire, explosion, and panic. The CSFM also adopts and administers regulations and standards necessary under the California Health and Safety Code to protect life and property.

### 1 3.14.2.2 Local

2 The Public Facilities/Services Element of the Contra Costa County General Plan 2005-  
3 2020 (Contra Costa County 2010) and the City's 2020 General Plan (City of Oakley  
4 2010) include goals and policies regarding public protection, fire protection, school, and  
5 public facility needs. No public services goals or policies are applicable to the Project.

### 6 3.14.3 Impact Analysis

7 ***a) Would the Project result in substantial adverse physical impacts associated***  
8 ***with the provision of new or physically altered governmental facilities, need for***  
9 ***new or physically altered governmental facilities, the construction of which could***  
10 ***cause significant environmental impacts, in order to maintain acceptable service***  
11 ***ratios, response times or other performance objectives for any public services***  
12 ***including Fire protection, police protection, schools, parks, or other facilities?***

13 **No Impact.** The Project would not create new demand for facilities or public services.  
14 No additional personnel would be required. The Project would not create new demand  
15 for schools or overburden existing school facilities.

16 The steel pipe removed during decommissioning activities would be recycled to the  
17 extent feasible; if not suitable for recycling, PG&E would contract for disposal with  
18 approved vendors with the capacity and regulatory permits to receive the classifications  
19 of waste to be disposed (e.g., the Keller Canyon Landfill located in Pittsburg, California).  
20 Please refer to Section 3.8, Hazards and Hazardous Materials, for detail regarding the  
21 potential for hazardous wastes associated with Project decommissioning activities.  
22 Other Project-generated construction waste would be minimal and would be transported  
23 to an appropriate waste disposal facility. Service ratios would not be affected by the  
24 Project, and existing public facilities would be adequate to serve the Project needs. See  
25 Section 3.16, Transportation/Traffic, for a discussion of temporary impacts to marine  
26 police services and emergency response. No impacts to public services would result.

### 27 3.14.4 Mitigation Summary

28 The Project would result in no impacts to public services; therefore, no mitigation is  
29 required.

### 1 3.15 RECREATION

RECREATION	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Would the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.15.1 Environmental Setting

3 The Project pipeline corridor is located approximately 650 feet to 850 feet east of the  
 4 Senator John A. Nejedly Bridge (Antioch Bridge - SR 160) within the San Joaquin River  
 5 Delta. According to the Sacramento County General Plan, Delta Specific Plan (County  
 6 of Sacramento 1983), recreational activities in the River Delta are predominantly  
 7 associated with water recreation and include boating, camping, fishing, hunting,  
 8 picnicking, and sightseeing.

9 The north landing of the Project pipeline corridor comes ashore on Sherman Island in  
 10 an area designated as critical natural area by Sacramento County. According to the  
 11 County's Delta Community Area Plan (County of Sacramento 1983), "recreational use  
 12 of lower Sherman Island is heavy, with a rapidly increasing demand and need for  
 13 recreational facilities."

14 The south landing of the Project pipeline corridor comes ashore at the Lauritzen Yacht  
 15 Harbor in the City and terminates in a subterranean valve pit. Lauritzen Yacht Harbor is  
 16 a privately owned marina that provides berths for recreational boaters, a gas dock, and  
 17 launching facilities. Directly adjacent to and west of the Lauritzen Yacht Harbor is  
 18 Driftwood Marina, which provides an additional 11 berths and other services for  
 19 recreational boaters.

20 The nearest park to the Project site is Antioch-Oakley Regional Shoreline Recreational  
 21 Area, which is located approximately 530 feet from the Project pipeline corridor between  
 22 Driftwood Marina and the Antioch Bridge - SR 160. The park is approximately 7.5 acres  
 23 in size with 4.5 acres of grassy meadow, a 550-foot-long fishing pier, restrooms,  
 24 barbeque grills, and other facilities. In addition to the existing facilities, according to the  
 25 City's Parks, Trails and Recreation Master Plan - 2020 (City of Oakley 2007), the East  
 26 Bay Regional Park District has plans to coordinate a regional trail adjacent to the

shoreline from Big Break to the Antioch Pier. However, no trails currently exist within the immediate Project area.

### **3.15.2 Regulatory Setting**

#### **3.15.2.1 Federal and State**

The CSLC has jurisdiction and management authority over all ungranted tidelands, submerged lands, and the beds of navigable lakes and waterways including the San Joaquin River Delta. The CSLC also has certain residual and review authority for tidelands and submerged lands legislatively granted in trust to local jurisdictions (Pub. Resources Code, §§ 6301, 6306). All tidelands and submerged lands, granted or ungranted, as well as navigable lakes and waterways, are subject to the protections of the Common Law Public Trust. As general background, the State of California acquired sovereign ownership of all tidelands and submerged lands and beds of navigable lakes and waterways upon its admission to the U.S. in 1850. The State holds these lands for the benefit of all people of the State for statewide Public Trust purposes, which include but are not limited to waterborne commerce, navigation, fisheries, water-related recreation, habitat preservation and open space. On tidal waterways, the State's sovereign fee ownership extends landward to the mean high tide line, except for areas of fill or artificial accretion.

#### **3.15.2.2 Local**

##### **Contra Costa County**

The Contra Costa County General Plan 2005-2020 (Contra Costa County 2010) identifies open space goals and policies that promote protection of the cultural resources of the County. The General Plan identifies the following resource goals and policies that were considered in the analysis of the proposed Project:

- Goal 9-A: To preserve and protect the ecological, scenic and cultural/historic, and recreational resource lands of the County.

##### **City of Oakley**

The City's 2020 General Plan (City of Oakley 2010) includes Policy No. 7.4.5 below.

- Policy 7.4.5: Support and encourage boat access and marinas. Consider additional marina facilities if proposed and appropriate.



1    **3.15.3 Impact Analysis**

2    ***a) Would the project increase the use of existing neighborhood and regional***  
3    ***parks or other recreational facilities such that substantial physical deterioration***  
4    ***of the facility would occur or be accelerated?***

5    **No Impact.** The Project includes the decommissioning and partial removal of three  
6    inactive pipelines. No permanent activities or facilities are proposed. Decommissioning  
7    would require temporary construction activities and staging of equipment.  
8    Decommissioning equipment and activities would be limited to the immediate Project  
9    site and staging areas and would not interfere with adjacent onshore parks or  
10    recreational areas. Offshore Project activities would also be temporary in nature and are  
11    anticipated to occur between August 1 and October 31, 2015. Although some preclusion  
12    of offshore pipeline corridor would be required within the immediate work area for safety  
13    purposes, access to other areas for water recreation along the San Joaquin River and  
14    Delta would not be hindered. Preclusion of the offshore pipeline corridor would be  
15    conducted in accordance with **MM TRANS-3: Marine Safety Zones** as further detailed  
16    within the PEP (Appendix A). The buoys marking the anchors would serve as visual  
17    indicators of the safety zone established around the marine construction work.  
18    Additionally, the local Notice to Mariners (**MM TRANS-1**) will notify recreational users  
19    and request that a 500-foot safety zone offset from the derrick barge be avoided.

20    It is anticipated that Project vessels would originate from Mare Island or other  
21    comparable commercial-use harbor in the immediate Project vicinity. Staging and  
22    loading/unloading of Project vessels would be limited to commercial areas and the  
23    immediate loading/unloading dock. These activities would not interfere with any  
24    recreational activities within the area. No significant impacts would result.

25    ***b) Does the project include recreational facilities or require the construction or***  
26    ***expansion of recreational facilities which might have an adverse physical effect***  
27    ***on the environment?***

28    **No Impact.** The proposed Project does not include the construction or expansion of any  
29    recreational facilities. No significant impacts would result.

30    **3.15.4 Mitigation Summary**

31    No significant impacts to recreational resources would occur. As discussed above the  
32    following MMs would be implemented to further reduce and minimize impacts.

- 33        • MM HAZ-2: Marine Safety and Anchoring Plan.
- 34        • MM TRANS-1: Local Notice to Mariners.
- 35        • MM TRANS-3: Marine Safety Zones.

### 1 3.16 TRANSPORTATION/TRAFFIC

TRANSPORTATION/TRAFFIC - Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in inadequate emergency access?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

#### 2 3.16.1 Environmental Setting

##### 3 3.16.1.1 Onshore Transportation

4 The northern portion of the pipeline terminus is located within an onshore valve pit on  
5 Sherman Island located in Sacramento County. Access to the northern landing is  
6 gained by crossing the Senator John A. Nejedly Bridge (Antioch Bridge - SR 160)  
7 approximately 2 miles to Victory Highway which turns southwest to the Sherman Island  
8 East Levee Road (Figure 3.16-1). The southern landing of the pipeline corridor comes  
9 ashore at Lauritzen Yacht Harbor in the City and terminates in a subterranean valve pit.  
10 Onshore access to the southern Project site is generally gained from SR 160 to Wilbur  
11 Avenue, north onto Bridgehead Road and east onto Lauritzen Lane (Figure 3.16-2).



**Figure 3.16-1. Northern Landing Onshore Ingress/Egress Route**





Figure 3.16-2. Southern Landing Onshore Ingress/Egress Route

In addition, marine crews would access the offshore Project site via a pick-up location within the northeastern portion of the harbor. The Lauritzen Yacht Harbor is a privately owned marina which provides berths for recreational boaters, a gas dock and boat launching facilities. Directly adjacent to and west of the Lauritzen Yacht Harbor is the Driftwood Marina. Use of Lauritzen Yacht Harbor on behalf of the Project has been approved and coordinated by PG&E with the Lauritzen Yacht Harbormaster.

Traffic counts in the City are generally measured by Level of Service (LOS) designations. LOS is a measure of the capacity at which a roadway or intersection is operating with regard to traffic flow. Intersection or roadway segment LOS values range from LOS A, which indicates free flow or excellent conditions with short delays, to LOS F, which indicates congested or overloaded conditions with extremely long delays. LOS values A through C indicate that an intersection or roadway segment is operating at acceptable levels.

The City has adopted LOS D, or a volume-to-capacity (V/C) ratio of 0.90, as the threshold of acceptability for signalized intersections. Any signalized intersection operating worse than LOS D would therefore be considered inconsistent with this standard (City of Oakley 2010). A traffic study in 2006 conducted on behalf of the City for the Cline Specific Plan (Fehr and Peers 2007) determined that Wilbur Avenue at its intersection with Bridgehead Road and the on/off-ramps to SR 160 is currently operating at LOS A-C during peak hours (Table 3.16-1).

**Table 3.16-1. City of Oakley Traffic Data for Wilbur Road at Bridgehead Road and SR 160 On/Off-Ramps**

Roadway	Peak Hour	LOS
Wilbur Avenue/SR 160 Southbound Ramp	a.m.	A (B)
	p.m.	A (C)
Wilbur Avenue/SR 160 Northbound Ramp	a.m.	A (B)
	p.m.	A (C)
Wilbur Avenue/Bridgehead Road	a.m.	C
	p.m.	B

Source: Fehr and Peers 2007

Notes: \*Delay for worst approach is shown in parentheses

Additionally, the Caltrans provides annual average daily traffic (AADT) counts and Peak Hour counts for the SR 160 at the nearest MP (Wilbur Avenue and the Contra Costa/Sacramento County Line). Table 3.16-2 below provides applicable AADT and peak hour data for this portion of SR 160.

**Table 3.16-2. Caltrans Traffic Data for SR 160 within the Project Area**

Back Peak Hour	Back Peak Month	Back AADT	Ahead Peak Hour	Ahead Peak Month	Ahead AADT
<b>Route 160 in Contra Costa County at the Wilbur Avenue Intersection Mile Post 0.486</b>					
1,050	12,600	11,000	1,150	1,330	12,200
<b>Route 160 at Contra Costa/Sacramento County Line at Mile Post 1.327</b>					
1,150	13,300	12,200	NA	NA	NA
<b>Route 160 at Contra Costa/Sacramento County Line at Mile Post 0</b>					
NA	NA	1,150	13,300	12,200	NA

Source: Caltrans 2013

AADT usually represents the total volume for the year divided by 365 days. Peak hour usually represents an estimate of the heaviest traffic flow which usually occurs between 7:00 a.m. to 9:00 a.m. and 5:00 p.m. to 7:00 p.m. Peak hour values indicate the volume in both directions. On roads with large seasonal fluctuations in traffic (such as SR 160), the peak hour is the hour near the maximum for the year but excluding a few (30 to 50 hours) that are exceedingly high and are not typical of the frequency of the high hours occurring during the season. Peak month ADT is the average daily traffic for the month of heaviest traffic flow, usually July or August. The AADT for this segment is 12,200 trips with a peak hour V/C ratio of 0.51 resulting in an LOS of E (Caltrans 2014).

### 3.16.1.2 Offshore Transportation

Project vessels for offshore work would mobilize from a local port, most likely Mare Island located approximately 30 miles west of the Project pipeline corridor (refer to Figure 2-7). From Mare Island, vessels would travel east through Suisun Bay and Honker Bay to the confluence of the Sacramento River and the San Joaquin River. From there, Project vessels would follow the San Joaquin River to the offshore Project site located offshore of Sherman Island in the San Joaquin River.

The San Joaquin River is an important commercial and recreational waterway in the Sacramento-San Joaquin Delta. The main 40 feet deep shipping channel, the Stockton Deep Water Channel, lies within the San Joaquin River approximately 3,000 feet north of the Project site near the northern shore of the river (Figure 3.16-3). Two marinas, the Lauritzen Yacht Harbor and the Driftwood Marina, serve recreational boaters and fisherman are located on the river immediately south and west of the Project site. The Contra Costa Sheriff's Department operates a Marina Patrol Support Services facility on Bridgehead Road and launches boats from the Lauritzen Yacht Harbor (CSLC 2013).





Figure 3.16-3. Vessel Traffic Lanes

### 3.16.2 Regulatory Setting

#### 3.16.2.1 Federal and State

Federal and State laws and regulations pertaining to this issue area and relevant to the Project are identified in Table 3.16-3.

**Table 3.16-3. Federal and/or State Laws, Regulations, and Policies Potentially Applicable to the Project (Transportation/Traffic)**

U.S.	Ports and Waterways Safety Act	This Act provides the authority for the USCG's program to increase vessel safety and protect the marine environment in ports, harbors, waterfront areas, and navigable waters, including by authorizing the Vessel Traffic Service, controlling vessel movement, and establishing requirements for vessel operation.
CA	California Vehicle Code	Chapter 2, Article 3 of the Vehicle Code defines the powers and duties of the California Highway Patrol, which has enforcement responsibilities for the vehicle operation and highway use in the State.
CA	Other	The California Department of Transportation is responsible for the design, construction, maintenance, and operation of the California State Highway System and the portion of the Interstate Highway System in California.

In addition, the USCG requires specific Vessel Traffic Service (VTS) protocols for areas including the San Joaquin River. The proposed Project is located within the Inshore Section of the USCG VTS - San Francisco. The primary mission of VTS is to “facilitate good order and predictability on a waterway by coordinating vessel movements through the collection, verification, organization and dissemination of information.”

The VTS uses a concept called “continuum of control” to coordinate vessel movements within its jurisdiction. The continuum is based on four levels of control: Monitor, Inform, Recommend, and Direct. All four levels of control would be used to coordinate certain marine operations of the marine construction work with shipping traffic.

- 1) Monitor - The VTS requires that all support vessel operations provide a sailing plan and position reports to VTS as described in the VTS User's Manual.
- 2) Inform - When working in or near a shipping channel, the VTS requires that a full-time radio watch monitors and communicates with VTS on VHF-FM channels 14. The marine crews will coordinate with the VTS, informing VTS prior to the start of each vessel trip that crosses the shipping channel.
- 3) Recommend - The marine crews will incorporate all VTS project specific recommendations into its marine remediation operation.
- 4) Direct - The USCG VTS “direct” level of control, per the USCG VTS User's Manual, is typically reserved for exceptional intervention by the USCG San Francisco Sector. The marine crews will comply with all USCG VTS directives.



1 3.16.2.2 Local

2 **Sacramento County General Plan Circulation Element**

3 Policy CI-9 of the Sacramento County General Plan Circulation Element (County of  
4 Sacramento 2014) requires the County to plan and design the roadway system in a  
5 manner that meets LOS D on rural roadways and LOS E on urban roadways, unless it  
6 is infeasible to implement project alternatives or mitigations that would achieve LOS D  
7 on rural roadways or LOS E on urban roadways. The urban areas are those areas  
8 within the Urban Service Boundary as shown in the Land Use Element of the  
9 Sacramento County General Plan.

10 **Contra Costa Transportation Authority**

11 The Contra Costa Transportation Authority (CCTA) is a public agency formed in 1988  
12 responsible for County-wide transportation planning. Its mission is to deliver a  
13 comprehensive transportation system that enhances mobility and accessibility while  
14 promoting a healthy environment and strong economy. The Countywide Comprehensive  
15 Transportation Plan (CTP) is the Authority's broadest policy and planning document.  
16 Besides outlining the Authority's vision and goals, the CTP outlines the various  
17 strategies for addressing transportation and growth management issues within Contra  
18 Costa County. The CTP also "knits together" the various Action Plans for Routes of  
19 Regional Significance, jointly prepared by jurisdictions within each sub-area of the  
20 county, which outline plans for each regional roadway. Another one of the CCTA's  
21 duties is to develop and implement the Congestion Management Plan (CMP), which  
22 identifies comprehensive strategies necessary for the development of appropriate  
23 responses to transportation needs. The CMP includes the following:

- 24 • Traffic LOS standards for State highways and principal arterials within the County
- 25 • Multi-modal performance measures to evaluate current and future systems
- 26 • A seven-year capital improvement program to maintain or improve the system or  
27 to mitigate any regional impacts of land use projects
- 28 • A travel demand element that promotes transportation alternatives to the single  
29 occupant vehicle. There are no traffic or transportation objectives or goals within  
30 the Contra Costa County General Plan 2005-2020 (Contra Costa County 2010)  
31 relevant to the proposed Project.

32 **City of Oakley General Plan**

33 The City includes several policies within its General Plan Circulation Element regarding  
34 the approval of Projects within the City's jurisdiction. The following applicable policy is  
35 listed below.

- Policy 4.4.2: If it cannot be demonstrated prior to project approval that levels of service will be met per Policy 4.1.1, the City may consider the development but defer its approval until the standards can be met or assured. In the event that a signalized intersection exceeds the applicable level of service standard, the City may approve projects if the City can establish appropriate mitigation measures, or determine that the intersection or portion of the roadway is subject to a finding of special circumstance, or is a route of regional significance, consistent with those findings and/or action plans adopted by the Contra Costa Transportation Authority.

### 3.16.3 Impact Analysis

***a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and freeways, pedestrian and bicycle paths, and mass transit?***

**Less than Significant with Mitigation.** The Project includes the decommissioning and removal of three inactive natural gas pipelines between Sherman Island and the City offshore, as well as some onshore decommissioning work on the shoreline of Sherman Island and within the City at the Lauritzen Yacht Harbor. The anchored derrick barge, its mooring system, and any other Project support vessels would be marked with appropriate painted markings, day shapes, and lighting. Construction activities would include a temporary minor increase in vessel and commuter traffic within the Project area. Following Project the decommissioning and removal of the pipelines and northern valve pit, transportation conditions would return to pre-Project levels. No increases in traffic or estimated future volume would occur. By law, all vessels are required to act in accordance with all USCG requirements. The Project would be required to submit a local Notice to Mariners to the USCG (**MM TRANS-1: Local Notice to Mariners**) at least 15 days prior to construction, and Project vessels would be required to adhere to existing vessel corridors as appropriate while traveling from ports, harbors, and piers from which crew and supplies are conveyed. As such, the Project is consistent with all applicable policies and plans. With implementation of **MM TRANS-1**, impacts associated with Project activities would be less than significant with mitigation.

**MM TRANS-1: Local Notice to Mariners.** A Local Notice to Mariners shall be submitted to the U.S. Coast Guard (USCG) at least 15 days prior to offshore decommissioning activities. All marine operations at the Project site shall operate in compliance with a USCG Anchor Waiver obtained specifically for the Project and shall comply with the USCG Vessel Traffic Service.

**b) Conflict with an applicable congestion management program, including, but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways?**

**Less Than Significant with Mitigation**

Onshore

The southern landing and pipeline terminus valve pit is located within Lauritzen Yacht Harbor in the City. The City has adopted LOS D, or a V/C ratio of 0.90, as the threshold of acceptability for signalized intersections. A traffic study in 2006 conducted on behalf of the City for the Cline Specific Plan (Fehr and Peers 2007) determined that Wilbur Avenue (at its nearest intersection to the Project at Bridgehead Road as well as the on/off-ramps to SR 160) is currently operating at LOS A-C during peak hours (Table 3.16-1).

The northern landing of the pipeline corridor is located within an unincorporated portion of Sacramento County on Sherman Island. No LOS data are currently available for the rural roads accessing the shoreline to the Project site. SR 160 from the City of Antioch to Sherman Island within the Project area is located within Caltrans jurisdiction. According to Caltrans within its Transportation Concept Report (Caltrans, 2014) a threshold of LOS D exists in rural areas (population less than 2,500) within this segment of SR 160. This segment of SR 160 currently maintains a LOS of E (Caltrans 2014) which is over the existing threshold of significance.

The Project would generate a small number of daily trips, up to approximately 20 for onshore personnel activities (northern and southern landings if activities occur simultaneously) plus a total of 15 truck trips per day for hauling. An additional 17 offshore commuters would park and access vessel crew boats within Lauritzen Yacht Harbor. Use of Lauritzen Yacht Harbor on behalf of the Project has been approved and coordinated by PG&E with the Lauritzen Yacht Harbormaster. Impacts to these areas would cause a slight increase in traffic along SR 160 while crossing the Senator John A. Nejedly Bridge; however, this increase would be minimal and temporary in nature. No long-term traffic impacts would result. With the incorporation of **MM TRANS-2: Avoidance of Peak Hours**, impacts to traffic would be mitigated to less than significant.

**MM TRANS-2: Avoidance of Peak Hours.** Construction traffic affecting State highways shall be required to avoid a.m. and p.m. peak hours between 7:00 a.m. to 9:00 a.m. and 5:00 p.m. to 7:00 p.m.

1    Offshore

2    Offshore Project activities are limited to temporary construction vessels mobilizing to the  
3    Project area and mooring along the pipeline corridor, as well as one to two tug/barge  
4    trips to shore (approximately 30 miles one way) to offload recovered pipe. The  
5    decommissioning work would involve operations within the Stockton Deep Water  
6    Channel and would require that the derrick barge moor adjacent to or within the  
7    shipping channel. The PG&E decommissioning contractor would be required to maintain  
8    an open corridor through the shipping channel to provide adequate passage for  
9    shipping. This would be accomplished by using an anchorage that enables the derrick  
10   barge to move on its anchor wires or pickup spuds and move to either side of the river,  
11   clear of the shipping channel on notification from USCG of the approach of a ship.

12   Project vessels are anticipated to be onsite for approximately 3 months between August  
13   1 and October 31, 2015. Only a limited number of vessel crew trips would occur  
14   between the primary Project vessels and the harbor area each day (likely no more than  
15   four) to allow for crew commuting and deliveries. Project vessels would comply with all  
16   USCG requirements including obtaining the required USCG anchor waiver for anchoring  
17   at the underwater work site and would participate in the USCG VTS monitoring system  
18   while working at the underwater work site.

19   There are currently no thresholds of significance that exist for offshore vessel traffic  
20   within the San Joaquin River area, however **MM TRANS-3: Marine Safety Zones**,  
21   would require the minimization of marine safety zones to preclude vessel traffic impacts.  
22   Due to the temporary nature of Project activities, as well as the minimal number of  
23   vessel trips required to move crews and transport equipment, with the inclusion of **MM**  
24   **TRANS-3**, impacts would be less than significant.

25        **MM TRANS-3: Marine Safety Zones.** Marine safety zones shall be minimized to the  
26        extent practicable to preclude vessel traffic impacts. All vessels would be  
27        requested to maintain a 500-foot safety zone around Project buoys, or if no  
28        buoys are present, a minimum offset of 500 feet from the derrick barge.

29    ***c) Result in a change in air traffic patterns, including either an increase in traffic***  
30    ***levels or a change in location that results in substantial safety risks?***

31    **No Impact.** The Project site is not located within an airport land use planning area. The  
32    nearest airfields (the Rio Vista Municipal Airport [Jack Bauman Field]) located about  
33    11 miles north of the Project site and the privately owned Funny Farm Airstrip located in  
34    Brentwood more than 7 miles to the southeast) would not be subjected to safety  
35    impacts caused by the Project. No impact would result.

**d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)?**

**No Impact.** No permanent above-ground facilities are proposed. Project activities are limited to the pipeline corridor and to within the valve pit equipment laydown areas as well as offshore within the confines of Project vessels. Project activities would remove potential hazards associated with spanned pipelines across the San Joaquin River. As such, Project activities would actually reduce potential hazards within the area. No negative impact would result.

**e) Result in inadequate emergency access?**

**Less than Significant Impact.** Project activities within the shore base (assumed to be Mare Island or its equivalent) and at the Lauritzen Yacht Harbor would be in accordance with normal activities taking place and would not preclude any access including ingress or egress of emergency vehicles. Use of Lauritzen Yacht Harbor on behalf of the Project has been approved and coordinated by PG&E with the Lauritzen Yacht Harbormaster.

Project activities are limited to pipeline corridors and temporary construction equipment located within the onshore valve pit equipment laydown areas as well as offshore within the confines of Project vessels working within the pipeline corridor. Offshore work would be temporary and transitory allowing for emergency boats and other vessels to use sections of the San Joaquin River not included within the immediate work area. Impacts to transportation and emergency access would be minor and less than significant.

**f) Conflict with adopted policies, plans or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities?**

**No Impact.** The decommissioning and removal of Project pipelines and the southern valve pit would not conflict with any plans, policies or programs in place for the Project area. Project activities are not located within an area that would disrupt local public transportation or reduce support involving alternative transportation routes or equipment. No impact would result.

**3.16.4 Mitigation Summary**

Implementation of the following MMs would reduce the potential for Project-related impacts to transportation/traffic to less than significant.

- MM TRANS-1: Local Notice to Mariners.
- MM TRANS-2: Avoidance of Peak Hours.
- MM TRANS-3: Marine Safety Zones.

# 1 3.17 UTILITIES AND SERVICE SYSTEMS

UTILITIES AND SERVICE SYSTEMS - Would the Project:	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
d) Have sufficient water supplies available to serve the Project from existing entitlements and resources, or are new or expanded entitlements needed?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
e) Result in a determination by the wastewater treatment provider which serves or may serve the Project that it has adequate capacity to serve the Project's projected demand in addition to the provider's existing commitments?	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
f) Be served by a landfill with sufficient permitted capacity to accommodate the Project's solid waste disposal needs?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
g) Comply with federal, state, and local statutes and regulations related to solid waste?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

## 2 3.17.1 Environmental Setting

3 The City is the nearest municipality to the Project pipeline corridor or onshore work  
4 areas. The City provides residents with residential and commercial garbage, recycling,  
5 and green waste collection and recycling service. Solid waste is generally hauled to the  
6 Recycling Center and Transfer Station in Pittsburg located approximately 9 miles to the  
7 west of the Project. Sewer and wastewater treatment services are provided for the City  
8 by the Ironhouse Sanitary District. The Diablo Water District provides water to the City  
9 and surrounding areas. Electricity for the City is generally provided by PG&E.

1    **3.17.2 Regulatory Setting**

2    3.17.2.1        Federal and State

3    There are no applicable Federal or State laws/regulations pertaining to utilities and  
4    service systems relevant to the Project area. Local goals, policies, and/or regulations  
5    applicable to this issue area are listed below:

6    3.17.2.2        Local

7    **City of Oakley**

8    The following General Plan policies (City of Oakley 2010) have been adopted by the  
9    City in regards to utilities and service systems and are applicable to the Project.

- 10        • Policy 4.7.1: Promote the reduction of the amount of waste disposed of in  
11            landfills by 1) reducing the amount of solid waste generated (solid waste  
12            reduction); 2) reusing as much solid waste as possible (recycling); 3) utilizing the  
13            energy and nutrient value of the solid waste (waste to energy and composting);  
14            and 4) properly disposing of the remaining solid waste (landfill disposal).
- 15        • Policy 4.7.2: Support the diversion of as much waste as feasible from landfills  
16            through recycling and recovery.
- 17        • Policy 4.7.5: Consider solid waste disposal capacity in land use planning and  
18            permitting activities, along with other utility requirements, such as water and  
19            sewer services.
- 20        • Policy 4.7.9: Avoid solid waste hauling on collectors and local streets through  
21            residential areas.

22    **3.17.3 Impact Analysis**

23    ***a) Exceed wastewater treatment requirements of the applicable Regional Water***  
24    ***Quality Control Board?***

25    **No Impact.** No treatment of wastewater by a publically owned wastewater treatment  
26    facility is required. No impact would result.

27    ***b) Require or result in the construction of new water or wastewater treatment***  
28    ***facilities or expansion of existing facilities, the construction of which could cause***  
29    ***significant environmental effects?***

30    **No Impact.** The Project is a decommissioning Project and would not introduce any new  
31    facilities or personnel that would require water or wastewater treatment facilities. No  
32    impact would result.

1 ***c) Require or result in the construction of new storm water drainage facilities or***  
2 ***expansion of existing facilities, the construction of which could cause significant***  
3 ***environmental effects?***

4 **No Impact.** The Project would not create any new storm water sources, or require the  
5 construction of new permanent storm water drainage facilities. Onshore Project  
6 activities would be limited to the existing valve pit areas within Sacramento County (to  
7 the north) and the City (to the south). No impact would result.

8 ***d) Have sufficient water supplies available to serve the project from existing***  
9 ***entitlements and resources, or are new or expanded entitlements needed?***

10 **No Impact.** Project activities would occur within onshore staging or work areas as well  
11 as on board Project vessels. Water required for personnel consumption and sanitary  
12 purposes would be minimal. Supplies would be portable and brought onsite for the  
13 duration of Project activities only. Following Project completion, no additional usage  
14 would be necessary. Local water supplies would not be affected. No new or expanded  
15 entitlements would be needed. No impact would result.

16 ***e) Result in a determination by the wastewater treatment provider which serves or***  
17 ***may serve the project that it has adequate capacity to serve the project's***  
18 ***projected demand in addition to the provider's existing commitments?***

19 **No Impact.** The Project would not generate wastewater that would require treatment at  
20 a wastewater service provider. No impact would result.

21 ***f) Be served by a landfill with sufficient permitted capacity to accommodate the***  
22 ***project's solid waste disposal needs?***

23 **Less than Significant Impact.** Waste generated by the Project would include general  
24 construction waste as well as the three pipelines. The pipelines are constructed of  
25 seamless steel pipe with an outside diameter of 12.75 inches and coated with an  
26 external anti-corrosive coating. The steel pipe and any associated debris would be  
27 recycled to the extent feasible. However, if following pipeline removal, PG&E  
28 determines that the steel pipeline or coating is not suitable for recycling, PG&E would  
29 contract for disposal with approved vendors with the capacity and regulatory permitting  
30 to receive the classifications of waste to be disposed (e.g., the Keller Canyon Landfill  
31 located in Pittsburg, California). Please refer to Section 3.8, Hazards and Hazardous  
32 Materials, for detail regarding the potential for hazardous wastes associated with Project  
33 decommissioning activities. A less than significant impact would result.



1 **g) Comply with Federal, State, and local statutes and regulations related to solid**  
2 **waste?**

3 **Less than Significant Impact.** The steel pipe and any associated debris would be  
4 recycled to the extent feasible. Solid waste would be disposed of in accordance with  
5 local, State and federal laws and regulations as required by the Project plans and  
6 specifications. PG&E and its contractors would dispose of any and all hazardous waste,  
7 should any be generated; through a permitted hazardous waste treatment, storage, or  
8 disposal facility. Non-hazardous waste would be transported to the nearby landfill  
9 facility. Please refer to Section 3.8, Hazards and Hazardous Materials, for detail  
10 regarding the potential hazardous wastes associated with Project decommissioning  
11 activities. A less than significant impact would result.

12 **3.17.4 Mitigation Summary**

13 The Project would not result in significant impacts to utilities and service systems;  
14 therefore, no mitigation is required.

### 3.18 MANDATORY FINDINGS OF SIGNIFICANCE

The lead agency shall find that a project may have a significant effect on the environment and thereby require an EIR to be prepared for the project where there is substantial evidence, in light of the whole record, that any of the following conditions may occur. Where prior to commencement of the environmental analysis a project proponent agrees to MMs or project modifications that would avoid any significant effect on the environment or would mitigate the significant environmental effect, a lead agency need not prepare an EIR solely because without mitigation the environmental effects would have been significant (per State CEQA Guidelines, § 15065).

MANDATORY FINDINGS OF SIGNIFICANCE -	Potentially Significant Impact	Less Than Significant with Mitigation	Less Than Significant Impact	No Impact
a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, substantially reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are significant when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of past, present and probable future projects)?	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
c) Does the project have environmental effects which will cause substantial adverse effects on human beings, either directly or indirectly?	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

#### 3.18.1 Impact Analysis

***a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory?***

**Less than Significant with Mitigation.** As described in Section 3.4, Biological Resources, with the implementation of MMs, the proposed Project would not result in

1 significant impacts to sensitive marine resources and would not have a significant effect  
2 on listed species or habitat used by those species. Sensitive habitats located within the  
3 Project area include wetlands, nesting and foraging areas, sensitive species habitat and  
4 other potential habitat areas. Organisms that could be potentially affected by the  
5 decommissioning and removal activities include California black rail, Swainson's Hawk,  
6 Western pond turtle, giant garter snake, Delta smelt, Steelhead, Chinook salmon, green  
7 sturgeon, longfin smelt, Sacramento splittail, Sacramento Perch, and sensitive plant  
8 species. However, impacts to these species would be sufficiently mitigated through the  
9 implementation of MMs and would not result in a significant impact. Therefore, the  
10 Project would not result in significant impacts related to habitat reduction, fish or wildlife  
11 populations, or the range of sensitive species.

12 As described in Section 3.5, Cultural Resources, the proposed Project would not result  
13 in significant impacts to any known cultural resources and the potential for the Project to  
14 encounter previously undetected resources is remote.

15 With implementation of the Project MMs, impacts associated with the proposed Project  
16 would be less than significant.

17 ***b) Does the project have impacts that would be individually limited, but***  
18 ***cumulatively considerable? ("Cumulatively considerable" means that the***  
19 ***incremental effects of a project are considerable when viewed in connection with***  
20 ***the effects of past projects, the effects of other current projects, and the effects***  
21 ***of probable future projects.).***

22 **Less than Significant Impact.** Project-related impacts would result from the  
23 decommissioning and removal of the three pipelines and appurtenant facilities. Due to  
24 the short-term duration and effects of removal, the Project would not result in impacts  
25 that are cumulatively considerable.

26 ***c) Does the project have environmental effects that would cause substantial***  
27 ***adverse effects on human beings, either directly or indirectly?***

28 **Less than Significant with Mitigation.** Following implementation of proposed MMs,  
29 the Project would not result in significant air quality, noise, hazards or other  
30 environmental impacts to residents of the Project area.

## 4.0 OTHER MAJOR AREAS OF CONCERN

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### 4.1 CSLC ENVIRONMENTAL JUSTICE POLICY

Environmental justice is defined by California law as “the fair treatment of people of all races, cultures, and incomes with respect to the development, adoption, implementation, and enforcement of environmental laws, regulations, and policies” (Senate Bill 115 [Chapter 690, Statutes of 1999]). This definition is consistent with the Public Trust Doctrine principle that the management of trust lands is for the benefit of all of the people. The California State Lands Commission (CSLC) adopted an environmental justice policy in 2002 to ensure that environmental justice is an essential consideration in the agency’s processes, decisions, and programs. Through its policy, CSLC reaffirms its commitment to an informed and open process in which all people are treated equitably and with dignity, and in which its decisions are tempered by environmental justice considerations. As part of this policy, the CSLC continues and enhances its processes, decisions, and programs with environmental justice as an essential consideration by:

- 1) Identifying relevant populations that might be adversely affected by CSLC programs or by projects submitted by outside parties for its consideration.
- 2) Seeking out community groups and leaders to encourage communication and collaboration with the CSLC and its staff.
- 3) Distributing public information as broadly as possible and in multiple languages, as needed, to encourage participation in the CSLC’s public processes.
- 4) Incorporating consultations with affected community groups and leaders while preparing environmental analyses of projects submitted to the CSLC for its consideration.
- 5) Ensuring that public documents and notices relating to human health or environmental issues are concise, understandable, and readily accessible to the public, in multiple languages, as needed.
- 6) Holding public meetings, public hearings, and public workshops at times and in locations that encourage meaningful public involvement by members of the affected communities.
- 7) Educating present and future generations in all walks of life about public access to lands and resources managed by the CSLC.
- 8) Ensuring that a range of reasonable alternatives is identified when siting facilities that may adversely affect relevant populations and identifying, for the CSLC’s consideration, those that would minimize or eliminate environmental impacts affecting such populations.

- 9) Working in conjunction with Federal, State, regional, and local agencies to ensure consideration of disproportionate impacts on relevant populations, by instant or cumulative environmental pollution or degradation.
- 10) Fostering research and data collection to better define cumulative sources of pollution, exposures, risks, and impacts.
- 11) Providing appropriate training on environmental justice issues to staff and the CSLC so that recognition and consideration of such issues are incorporated into its daily activities.
- 12) Reporting periodically to the CSLC on how environmental justice is a part of the programs, processes, and activities conducted by the CSLC and by proposing modifications as necessary.

#### 4.1.1 Methodology

The CSLC environmental justice policy does not specify a methodology for conducting programmatic-level analysis of environmental justice issues. This analysis focuses primarily on whether the Project's impacts have the potential to affect areas of high-minority populations and/or low-income communities disproportionately and thus would create an adverse environmental justice effect. For the purpose of the environmental analysis, the Project's inconsistency with the CSLC's Environmental Justice Policy would occur if the Project would:

- Have the potential to disproportionately affect minority and/or low-income populations adversely; or
- Result in a substantial, disproportionate decrease in employment and economic base of minority and/or low-income populations residing in immediately adjacent communities.

#### 4.1.2 Project Analysis

##### 4.1.2.1 Communities of Concern Identified within the Project Study Area

Project removal and abandonment activities are located primarily across the San Joaquin River crossing between the City of Oakley (City) in Contra Costa County and levee at Sherman Island in southern Sacramento County. Onshore and offshore work crews would be required. Onshore personnel would access the southern landing and valve pit at the Lauritzen Yacht Harbor located in the City in Contra Costa County. The northern landing would be accessed via State Route (SR) 160 (Antioch Bridge) to Sherman Island in southern Sacramento County. Offshore crews would likely access the Project site from Mare Island located approximately 30 miles west of the Project site. As such, demographics for the onshore communities of the City, Contra Costa County, and Sacramento County have been included and discussed herein.

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#### 4.1.2.2 Environmental Setting

### **Demographics**

As indicated in Table 4-1, a summary of the regional demography within the Project onshore potentially affected areas shows that the City contains a smaller percentage of minority persons compared to total population (24.6 %) than in Contra Costa County (34.6%) or Sacramento County (36%). One feature of the U.S. Census data is important to note because it complicates the environmental justice analysis. Hispanic and Latino persons are considered as minority persons, consistent with federal and State environmental justice policies. However, as characterized in the census data, Hispanic or Latino persons may also belong to any race (i.e., White, Black, Native American, or any other racial category). Because an unspecified percentage of Hispanic or Latino persons identify themselves as White, the census data do not include members of that group in the category of “ethnic minorities.” As a result, for a given population, the total percentage of persons belonging to “ethnic minorities” (as defined by census data) underestimates the actual percentage of minority community members. Since Hispanic and Latino persons represent a substantial portion of the minority communities in some parts of the onshore Project area considered, the percentage of each area’s population identifying themselves as Hispanic or Latino is summarized separately below.

Although the City contains a smaller percentage of minority persons than Contra Costa or Sacramento Counties as a whole, a larger percentage of persons within the total population within the City identify themselves as being persons of Hispanic or Latino origin (25 %) than that identified for Contra Costa or Sacramento Counties (16-17.7 %). However, although Hispanic and Latino persons are also considered within the minority population, in this instance, the percentage of Hispanic and Latino persons for the City (25 %) is consistent with the percentage of minorities for the City (24.6 %).

### **Socioeconomics**

As shown in Table 4-2 below, socioeconomic statistics regarding income and poverty levels from the onshore potentially affected areas, as estimated by the U.S. Census Bureau, are varied. Sacramento County has the lowest median family income levels (\$50,717) and highest percentage of individuals (14.1 %) and families (10.3 %) living below the established poverty level. In comparison, Contra Costa County has a higher median family income level (\$73,039) and moderate percentage of individuals (7.6 %) and families (5.4 %) living below the poverty level. The City has a median family income level of \$68,888 and a lower percentage of individuals (5 %) and families (2.8 %) living below the poverty level.

**Table 4-1. U.S. Census Regional Demographic Comparison Table**

County/ City	Total Population	White	Ethnicity of Minority Population						Approx. % of Minority Population	Persons of Hispanic or Latino Origin (from Total Population)
			Black or African American	American Indian and Alaska Native	Asian	Native Hawaiian and Other Pacific Islander	Two Or More Races	Some Other Race		
Sacramento	1,223,449	64%	10.0%	1.1%	11.0%	0.6%	5.8%	7.5%	36%	16.0%
Contra Costa	948,816	65.5%	9.4%	0.6%	11.0%	0.4%	5.1%	8.1%	34.6%	17.7%
Oakley	25,619	75.5%	3.4%	0.9%	2.9%	0.3%	6.5%	10.6%	24.6%	25%

Source: DP-1 Profile of General Population and Housing Characteristics, 2000. US Census, Factfinder 2014.

**Table 4-2. Socioeconomic Comparison of Affected Environment**

County/City	Per Capita Income	Median Household Income	Median Family Income	Percentage of Individuals below Poverty Level	Percentage of Families Below Poverty Level
<b>Sacramento</b>	\$21,142	\$43,816	\$50,717	14.1%	10.3%
<b>Contra Costa</b>	\$30,615	\$63,675	\$73,039	7.6%	5.4%
<b>Oakley</b>	\$21,895	\$65,589	\$68,888	5.0%	2.8%

Source: U.S. Census Bureau, Census 2000 Summary File 3 - Profile of Selected Economic Characteristics (DP-3) Accessed US Census Factfinder 2014

### 1 4.1.3 Impact Analysis

#### 2 4.1.3.1 Northern Landing at Sherman Island (Sacramento County)

3 Pipelines and the existing subterranean valve pit would be removed 15 feet north of the  
 4 toe of the Sherman Island levee at the northern landing (levee) at Sherman Island. This  
 5 area is currently open space that is partially zoned for agricultural development. The  
 6 closest residential development is within the City to the south. Access to this area  
 7 during construction would be via SR 160 (Antioch Bridge). During construction,  
 8 personnel required for onshore work may temporarily reside within the City as  
 9 discussed below (Southern Landing).

10 Following completion of construction, the Project area would be return to pre-Project  
 11 conditions. The area would be backfilled with native materials and restored in  
 12 accordance with Central Valley Flood Protection Board/ Reclamation District 341  
 13 standards. As discussed in Section 3.2, Agricultural Resources, no impacts to exiting  
 14 agricultural operations would result. Additionally, although Sacramento County

(containing Sherman Island) has the highest percentage of minority and low-income populations within the areas of potential affect considered on behalf of the Project, onshore work activities at Sherman Island are located within a remote area and would not result in impacts that would have the potential to significant or disproportionately affect minority or low-income populations. No impact would result.

#### 4.1.3.2 Southern Landing at the Lauritzen Yacht Harbor (City, Contra Costa County)

Pipelines within the southern landing would be abandoned in-place within an existing subterranean valve pit located within the Lauritzen Yacht Harbor. The existing valve pit is located within a cleared dirt area adjacent to the dock and slips. Construction activities at this location may cause a temporary impediment to traffic flow within this immediate area; however, this inconvenience would not affect minority or low-income populations. During construction, personnel required for onshore work may temporarily reside within the City area. The addition of these crew members for up to 3 months would contribute to a slight increase in housing demand and local traffic within the respective local roadway systems and communities. However, impacts are not anticipated as this area does not contain a high percentage (approximately 24.6 %) of minority or low-income (5 %) persons. No disproportionate impact to environmental justice communities would result.

#### 4.1.3.3 Offshore Vessel Mobilization and Pipeline Removal Across San Joaquin River

Initial offshore vessel mobilization would likely be from the Mare Island located within an industrially developed area located approximately 30 miles west of the Project site. Vessels would mobilize east along the San Joaquin River to the offshore Project corridor east of SR 160 (Antioch Bridge). Once on-station, the primary vessel (barge) and support vessels would remain moored offshore for the duration of removal activities (approximately 3 months). During this time, offshore pipeline removal activities may be observed by travelers along SR 160 (Antioch Bridge), other commercial or recreational boaters transiting through this area, and adjacent development at the shoreline of the City or Sherman Island.

As discussed in Section 3.16, Transportation, offshore construction activities would temporarily increase offshore vessel traffic and congestion. However, as this waterway is commonly used in support of local industry, the addition of these few vessels and the transitory 500-foot preclusion area for safety purpose required for pipeline removal activities for approximately 3 months would not generate a significant increase in vessel traffic or congestion. No commercial fishing is located within this area. Recreational boaters or fisherman would have other areas of opportunity to pursue their activities. Offshore vessel traffic and anchoring would remain in accordance with existing uses through noticing (**MM TRANS-1: Local Notice to Mariners**), for use of established



vessel traffic corridors, and an approved anchoring plan would be developed in accordance with USCG standards (**MM HAZ-2 Marine Safety and Anchoring Plan**).

Expenditures during construction would be limited to equipment rental and food and lodging for construction personnel, and would typically stay in the local economy. Offshore support crew personnel may require several days of hotel stay for workers; however, the small increase in number of construction workers during offshore pipeline removal activities would not displace any residences, and would not necessitate construction of additional housing. As such, short-term socioeconomic effects of offshore construction are expected to be minimal and no disproportionate impact to minority and low-income populations would result.

#### **4.1.4 Mitigation Summary**

The Project would not result in significant impacts to environmental justice populations; therefore, no mitigation is required. Although there are no impacts resulting from the proposed Project, the following MMs would further reduce the potential for impacts to environmental justice populations:

- MM TRANS-1: Local Notice to Mariners.
- MM HAZ-2: Marine Safety and Anchoring Plan.

## 5.0 MITIGATION MONITORING PROGRAM

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The California State Lands Commission (CSLC) is the lead agency under the California Environmental Quality Act (CEQA) for the PG&E Line 114, Line 114-1, and Line SP4Z Pipeline Decommissioning Project (Project). In conjunction with approval of this Project, the CSLC adopts this Mitigation Monitoring Program (MMP) for implementation of mitigation measures (MMs) for the Project to comply with Public Resources Code section 21081.6, subdivision (a) and State CEQA Guidelines sections 15091, subdivision (d), and 15097.

The Project authorizes Pacific Gas and Electric Company (PG&E or Applicant) to decommission and remove three pipelines (Line 114, Line 114-1, and Line SP4Z) in accordance with the terms and conditions of its existing CSLC Lease No. PRC 5438.1E.

### 5.1 PURPOSE

It is important that significant impacts from the Project are mitigated to the maximum extent feasible. The purpose of a MMP is to ensure compliance and implementation of MMs; this MMP shall be used as a working guide for implementation, monitoring, and reporting for the Project's MMs.

### 5.2 ENFORCEMENT AND COMPLIANCE

The CSLC is responsible for enforcing this MMP. The Project Applicant (PG&E) is responsible for the successful implementation of and compliance with the MMs identified in this MMP. This includes all field personnel and contractors working for the Applicant.

### 5.3 MONITORING

The CSLC staff may delegate duties and responsibilities for monitoring to other environmental monitors or consultants as necessary. Some monitoring responsibilities may be assumed by other agencies, such as affected jurisdictions, cities, and/or the California Department of Fish and Wildlife (CDFW). The CSLC and/or its designee shall ensure that qualified environmental monitors are assigned to the Project.

#### 5.3.1 Environmental Monitors

To ensure implementation and success of the MMs, an environmental monitor must be on site during all Project activities that have the potential to create significant environmental impacts or impacts for which mitigation is required. Along with the CSLC staff, the environmental monitor(s) are responsible for:

- Ensuring that the Applicant has obtained all applicable agency reviews and approvals;
- Coordinating with the Applicant to integrate the mitigation monitoring procedures during Project implementation (for this Project, many of the monitoring procedures shall be conducted during the deconstruction phase); and
- Ensuring that the MMP is followed.

The environmental monitor shall immediately report any deviation from the procedures identified in this MMP to the CSLC staff or its designee. The CSLC staff or its designee shall approve any deviation and its correction.

### **5.3.2 Workforce Personnel**

Implementation of the MMP requires the full cooperation of Project personnel and supervisors. Many of the MMs require action from site supervisors and their crews. The following actions shall be taken to ensure successful implementation.

- Relevant mitigation procedures shall be written into contracts between the Applicant and any contractors.
- For this Project, a Worker Environmental Awareness Program (WEAP) (under **MM BIO-1**) shall be implemented and all personnel required to participate.

### **5.3.3 General Reporting Procedures**

A monitoring record form shall be submitted to the Applicant, and once the Project is complete, a compilation of all the logs shall be submitted to the CSLC staff. The CSLC staff or its designated environmental monitor shall develop a checklist to track all procedures required for each MM and shall ensure that the timing specified for the procedures is followed. The environmental monitor shall note any issues that may occur and take appropriate action to resolve them.

### **5.3.4 Public Access to Records**

Records and reports are open to the public and would be provided upon request.

## **5.4 MITIGATION MONITORING TABLE**

This section presents the mitigation monitoring table (Table 5-1) for Aesthetics, Air Quality, Biological Resources, Cultural and Paleontological Resources, Geology and Soils, Greenhouse Gas Emissions, Hazards and Hazardous Materials, Hydrology and Water Quality, Noise, Recreation, and Transportation/Traffic. All other environmental

1 disciplines were found to have less than significant or no impacts and are, therefore, not  
2 included below. The table lists the following information by column:

- 3 • Impact (impact number, title, and impact class);
- 4 • Mitigation [or Applicant-proposed] measure (full text of the measure);
- 5 • Location (where impact occurs and mitigation measure should be applied);
- 6 • Monitoring/reporting action (action to be taken by monitor or Lead Agency);
- 7 • Timing (before, during, or after construction; during operation, etc.);
- 8 • Responsible agency; and
- 9 • Effectiveness criteria (how the agency can know if the measure is effective).

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
Aesthetics						
Nighttime Lighting	Implement MM N-1: Construction Timing (see below).					
Air Quality						
Project Emissions	<b>MM AQ-1: Air Pollutant Control Measures.</b> Pacific Gas and Electric shall include emission reduction measures in the Project plans and specifications that reduce the emission of criteria air pollutants. These shall include: <ul style="list-style-type: none"><li>• Harborcraft such as derricks, barges and tug boats shall meet the most stringent U.S. Environmental Protection Agency emission standards in place at the time of bid (Tier II for marine engines and non-road engines over 750 horsepower (hp), Tier III for all other engines);</li><li>• Portable equipment with engines 50 hp and over shall be permitted through the California Air Resources Board's Portable Equipment Registration Program;</li><li>• Diesel oxidation catalysts and/or catalyzed diesel particulate traps shall be used;</li><li>• High-pressure fuel injectors on diesel-powered equipment shall be used; and</li><li>• Equipment shall be maintained according to manufacturer specifications.</li></ul>	Onshore and offshore Project areas	Compliance monitoring	During all work activities	PG&E and APCD	Reduce potential emissions from Project equipment
	<b>MM AQ-2: Dust Control Measures.</b> Pacific Gas and Electric shall implement the Bay Area Air Quality Management District's "basic measures" for dust control at construction sites, as needed, during soil excavation. The basic measures would include the following: <ul style="list-style-type: none"><li>• Water all active construction areas at least twice daily.</li><li>• Cover all trucks hauling soil, sand, and other</li></ul>	Onshore and Offshore Project areas	Compliance monitoring	During all work activities	PG&E and APCD	Reduce dust from Project activities

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	<p>loose materials or require all trucks to maintain at least 2 feet of freeboard.</p> <ul style="list-style-type: none"> <li>• Pave, apply water three times daily, or apply (non-toxic) soil stabilizers on all unpaved access roads, parking areas and staging areas at construction sites.</li> <li>• Sweep daily (with water sweepers) all paved access roads, parking areas, and staging areas at construction sites.</li> <li>• Sweep streets daily (with water sweepers) if visible soil material is carried onto adjacent public streets.</li> <li>• Construction equipment (e.g., excavator) shall be inspected before leaving the site to ensure that soil is not adhering to tires or other vehicle parts. Vehicles shall be brushed to remove loose dirt, as necessary. Manual sweeping and housekeeping shall be performed as needed to keep dirt off of roadways.</li> </ul>					
<b>Biological Resources</b>						
<b>Worker Environmental Awareness</b>	<p><b>MM BIO-1: Worker Environmental Awareness Program (WEAP).</b> A California State Lands Commission (CSLC)-approved biologist shall conduct pre-construction WEAP training for work crew members prior to any construction activities and periodic training if new crew members report to the Project. Training materials shall be submitted to CSLC staff for approval 3 weeks prior to commencement of Project activities. The WEAP shall include a discussion of the potential presence of special-status species and habitats within the Project area, and protection measures to ensure species are not</p>	Onshore and offshore Project areas	Compliance monitoring	During all work activities	PG&E	Increase worker awareness of Project area and potential environmental impacts and responses

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	impacted by Project activities. Interpretation shall be provided for non-English speakers.					
<b>Impacts to Biological Species</b>	<p><b>MM BIO-2: Biological Compliance Monitoring Program.</b> Prior to the commencement of offshore activities, Pacific Gas and Electric (PG&amp;E) shall submit a Project-specific Biological Compliance Monitoring Program to California State Lands Commission (CSLC) staff for review and approval 60 days prior to decommissioning activities. The Program shall indicate the appropriate number of CSLC-approved biologists to conduct monitoring for each phase of the Project. At a minimum, the monitor(s) shall:</p> <ul style="list-style-type: none"> <li>• Monitor the work area for special-status-species prior to daily construction. If western pond turtle and giant garter snake are present and require removal to avoid harm, the California Department of Fish and Wildlife (CDFW) and/or the U.S. Fish and Wildlife Service (USFWS) shall be notified and a qualified wildlife biologist shall be employed to trap individuals in accordance with methods approved by the CDFW/USFWS. A relocation site shall be identified by the wildlife biologist, in consultation with the CDFW/USFWS, and the individual shall be relocated.</li> <li>• Record all work activities on a daily basis.</li> <li>• Ensure Project compliance with all agency conditions and mitigation measures that could potentially affect biological resources.</li> <li>• If necessary, issue stop work orders, and ensure, in conjunction with the</li> </ul>	Onshore and offshore Project areas	Pre-Project biological surveys, agency communication, daily compliance, and final report.	Prior to and throughout all Project work activities	PG&E and the approved biological consultant in accordance with CDFW, USFWS, CSLC and other agencies as necessary	Reduce potential impacts to biological species

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	<p>decommissioning contractor staff and PG&amp;E staff, that non-compliance remedies are fully implemented.</p> <ul style="list-style-type: none"> <li>• Conduct daily water quality monitoring.</li> <li>• Prepare a final monitoring report for submittal to CSLC staff within 30 days of Project completion.</li> </ul>					
<b>Impacts to Special-Status Plant Species</b>	<p><b>MM BIO-3: Preconstruction Surveys for Special-Status Plant Species.</b> Prior to Project initiation, a qualified botanist shall survey the Project site to identify special-status plants. The surveys would be conducted during the appropriate blooming period. If a special-status plant or stand is found, it shall be flagged, and the California Department of Fish and Wildlife (CDFW) and/or the U.S. Fish and Wildlife Service (USFWS), and California State Lands Commission (CSLC) staff shall be notified. If impacts cannot be avoided by isolating the plant from the work area by temporary fencing or other means, with concurrence of the resource agencies, a qualified botanist shall be consulted to identify an appropriate location for relocating the plants, or for temporarily holding them for future restoration of the site, or to collect seeds or cuttings for use during restoration. A copy of the preconstruction survey shall be submitted to CDFW, USFWS, and CSLC staffs prior to Project initiation. If special-status plants are observed during Project surveys, Pacific Gas and Electric shall submit California Natural Diversity Database (CNDDB) forms to the CDFW Biogeographic Data Branch (CNDDB@dfg.ca.gov) with all pre-construction survey data within five</p>	Onshore Project areas	Pre-Project biological surveys, agency communication, daily compliance, and final report	Prior to and throughout all onshore work activities	PG&E and the approved biological consultant in accordance with CDFW, USFWS, CSLC and other agencies as necessary	Reduce potential impacts to special status plant species



Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	working days of the sighting and shall provide CDFW's Bay Delta Region with copies of the CNDDDB forms and survey maps.					
<b>Impacts to Delta Smelt, Green Sturgeon, Salmonids, Longfin Smelt, Sacramento Splittail, and Sacramento Perch</b>	<b>MM BIO-4: In-Water Work Windows and Protections.</b> The Project shall conduct in-water construction activities within the aquatic work windows established by the National Marine Fisheries Service, U.S. Fish and Wildlife Service, and California Department of Fish and Wildlife for delta smelt, southern distinct population segment (DPS) of green sturgeon, California Central Valley DPS of steelhead trout, Central Valley fall-run, late fall-run, spring-run, and Sacramento River winter-run Chinook salmon evolutionary significant units. To avoid impacts to critical life stages of these species, all in-water Project construction shall occur between August 1 and October 31 unless an extension is granted from the agencies listed above. In addition, no activities that would entrain or impinge fish shall be used.	Offshore and near-shore Project areas	Pre-Project scheduling, biological surveys, agency communication, daily compliance, and final report	Prior to and throughout all offshore and near shore work activities	PG&E and the approved biological consultant in accordance with CDFW, USFWS, CSLC and other agencies as necessary	Reduce potential impacts to sensitive fish species
	Implement <b>MM BIO-2: Biological Compliance Monitoring Program</b> (see above) Implement <b>MM WQ-1: Surface Water Protection</b> (see below)					
<b>Temporary Construction Impacts to Western Pond Turtle and Giant Garter Snake</b>	<b>MM BIO-5: Preconstruction Surveys for Western Pond Turtle and Giant Garter Snake.</b> A pre-construction survey for western pond turtle and giant garter snake shall be conducted within 24 hours prior to construction to ensure that individuals are not present in the work area. A copy of the survey report shall be submitted to the U.S. Fish and Wildlife Service (USFWS), the California Department of Fish and Wildlife, and California State Lands Commission staffs prior to Project initiation.	Offshore and near-shore Project areas	Pre-Project scheduling, biological surveys, agency communication, daily compliance, and final report	Prior to and throughout all offshore and near shore work activities	PG&E and the approved biological consultant in accordance with CDFW, USFWS, CSLC and other agencies as necessary	Reduce potential impacts to western pond turtle and giant garter snake

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	The Project area shall be re-inspected if a lapse in construction activity of 2 weeks or greater has occurred. Project activities occurring in potential giant garter snake habitat shall be conducted within the giant garter snake active period of May 1 - October 1. If terrestrial construction is to take place between October 2 and April 30, the USFWS Sacramento Office shall be contacted to see if additional surveys are required to minimize take.					
	<b>MM BIO-6: Temporary Exclusion Fencing.</b> The construction area shall be delineated with high visibility temporary fencing at least 4 feet in height to prevent encroachment of construction personnel and equipment onto any sensitive areas between the north shoulder of the lower levee road and the grassland and wetland areas north of the road during Project work activities. Such fencing shall be erected to assure no disturbance of wetland habitat that could provide habitat for special-status plants and wildlife. The fencing shall be inspected and maintained daily until completion of the proposed action. The fencing shall be removed only when all construction equipment is removed from the site. Actions within the Project area shall be limited to authorized vehicle and equipment operation on existing roads. No Project activities shall occur outside the delineated Project construction area.	Offshore and near-shore Project areas	Pre-Project scheduling, biological surveys, agency communication and daily compliance	Prior to and throughout all offshore and near shore work activities	PG&E and the approved biological consultant in accordance with CDFW, USFWS, CSLC and other agencies as necessary	Reduce potential impacts to wetland habitat
<b>Temporary Construction Impacts to</b>	<b>MM BIO-7: Preconstruction Surveys for Swainson's Hawk.</b> For work that begins between March 1 and September 15, a	All Project areas within 0.5	Pre-Project scheduling, biological	Prior to and throughout all Project work	PG&E and the approved biological	Reduce potential impacts to

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
<b>Swainson's Hawk</b>	<p>qualified biologist with expertise in Swainson's hawk, shall conduct surveys of potential nesting habitat within 0.5 mile of any earth-moving activities prior to initiation of such activities. Surveys shall be conducted during the recommended survey periods for Swainson's hawk in accordance with the <i>Recommended Timing and Methodology for Swainson's Hawk Nesting Surveys in California's Central Valley</i> (Swainson's Hawk Technical Advisory Committee 2000). The proposed survey methodology shall be submitted to the California Department of Fish and Wildlife (CDFW) for review and approval, with a copy to California State Lands Commission (CSLC) staff, a minimum of 15 days prior to the proposed start of survey activities.</p> <p>If nesting Swainson's hawks are observed, all Project-related activities with the potential to cause nest abandonment or forced fledging of young within a minimum of 0.5 mile of nesting hawks shall be avoided between March 1 and September 15. Pacific Gas and Electric shall be required to obtain a California Endangered Species Act permit from the CDFW if Project activities with the potential to cause disturbance to nesting Swainson's hawks are proposed to be conducted within the 0.5 mile buffer. A copy of the survey report shall be submitted to the CDFW and CSLC staffs prior to Project initiation.</p> <p>If construction work begins after September 15 and ends before March 1 (outside of the breeding season), impacts to the Swainson's</p>	mile of earth moving activities	surveys, agency communication, daily compliance, and final report	activities conducted between March 1 and September 15	consultant in accordance with CDFW, USFWS, CSLC and other agencies as necessary	Swainson's hawk

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	hawk would be avoided. Surveys would not be required for work conducted during this part of the year.					
<b>Temporary Construction Impacts to California Black Rail</b>	<p><b>MM BIO-8: Preconstruction Survey for California Black Rail.</b> If work is scheduled to occur during California black rail breeding season (February 1 through August 15), a qualified biologist shall conduct a breeding season survey to identify nesting locations of California black rail. Surveys shall be conducted between February 1 and August 1 in accordance with accepted protocols. A copy of the survey report shall be submitted to the California Department of Fish and Wildlife (CDFW) and California State Lands Commission staffs prior to initiation of the Project.</p> <p>If active nests are observed, work within 250 feet of any nest location shall not occur until August 15, unless a variance is approved by the CDFW and a biological monitor is present and has the authority to stop work if nesting rails are disturbed by construction activities. If construction occurs between August 15 and February 1, a preconstruction survey would not be required.</p>	All Project areas	Pre-Project scheduling, biological surveys, agency communication, daily compliance, and final report	Prior to and throughout all Project work activities conducted between February 1 and August 15	PG&E and the approved biological consultant in accordance with CDFW, USFWS, CSLC and other agencies as necessary	Reduce potential impacts to California black rail
<b>Destruction of Native and Migratory Bird Nests</b>	<p><b>MM BIO-9: Preconstruction Survey and Minimization Measures for Nesting Birds.</b> The following measures shall be implemented prior to and during construction activities to reduce Project-related impacts to active bird nests and to reduce the potential for construction activities to interrupt breeding and rearing behaviors of birds:</p> <ul style="list-style-type: none"> <li>• A preconstruction survey shall be conducted</li> </ul>	All Project areas	Pre-Project scheduling, biological surveys, agency communication, daily compliance, and final	Prior to and throughout all Project work activities conducted between February 1 and August 15	PG&E and the approved biological consultant in accordance with CDFW, USFWS, CSLC and other	Reduce potential impacts to breeding bird species

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	<p>to determine the presence of nesting birds if ground clearing or construction activities are initiated during the breeding season (February 1 through September 15). The Project site and potential nesting areas within 500 feet of the site shall be surveyed 14 to 30 days prior to the initiation of construction. Surveys shall be performed by a qualified biologist or ornithologist to verify the presence or absence of nesting birds. A copy of the survey report shall be submitted to the California Department of Fish and Wildlife (CDFW) and California State Lands Commission staffs prior to Project initiation.</p> <ul style="list-style-type: none"> <li>• Construction shall not occur within a 500 foot buffer surrounding nests of raptors or a 250 foot buffer surrounding nests of migratory birds.</li> <li>• If construction within these buffer areas is required, or if nests must be removed to allow continuation of construction, then approval must be obtained from the CDFW.</li> <li>• If construction activities begin after September 15 and end before February 1, impacts to nesting and breeding birds would be avoided, and surveys would not be required.</li> </ul>		report		agencies as necessary	
	<p>Implement <b>MM BIO-7: Preconstruction Survey for Swainson's Hawk</b> (see above)</p> <p>Implement <b>MM BIO-8: Preconstruction Survey for California Black Rail</b> (see above)</p> <p>Implement <b>MM WQ-1: Surface Water Protection</b> (see below)</p>					
<b>Disturbance of Sensitive Natural Communities</b>	<p>Implement <b>MM BIO-4: In-Water Work Windows and Protections</b> (see above)</p> <p>Implement <b>MM BIO-5: Preconstruction Surveys for Western Pond Turtle and Giant Garter Snake</b> (see above)</p> <p>Implement <b>MM WQ-1: Surface Water Protection</b> (see below)</p>					

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
Temporary Construction Impacts to Wetlands and Waters of the U.S.	Implement <b>MM WQ-1: Surface Water Protection</b> (see below)					
Interfere substantially with the movement of any native species or migratory wildlife	Implement <b>MM BIO-4: In-Water Work Windows and Protections</b> (see above)					
<b>Cultural and Paleontological Resources</b>						
Potential Impacts to Previously Unidentified Cultural Resources	<b>MM CUL-1: Discovery of Previously Unknown Cultural Resources.</b> Should additional cultural materials be uncovered during Project implementation, Project activities shall cease within 100 feet of the find and a Cultural Resources Specialist and California State Lands Commission (CSLC) staff shall be contacted immediately. The location of any such finds must be kept confidential and measures should be taken to ensure that the area is secured to minimize site disturbance and potential vandalism. Additional measures to meet these requirements, after a qualified Cultural Resources Specialist has been notified, include assessment of the nature and extent of the resource, including its possible eligibility for listing in the National Register of Historic Places, and subsequent recordation and notification of relevant parties based upon the results of the assessment. Title to all abandoned shipwrecks, archaeological sites, and historic or cultural resources on or in the	All Project areas	Reporting, notification and follow-up correspondence between agencies and PG&E if resources are encountered	Prior to and throughout any onshore work activities as necessary	PG&E and agencies as required	Reduce potential impacts to onshore cultural resources

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	tide and submerged lands of California is vested in the State and under the jurisdiction of the CSLC. The final disposition of archaeological, historical, and paleontological resources recovered on State lands under the jurisdiction of the CSLC must be approved by the Commission.					
<b>Discovery of Human Remains</b>	<b>MM CUL-2: Unanticipated Discovery of Human Remains.</b> If human remains are encountered, all provisions provided in California Health and Safety Code section 7050.5 and California Public Resources Code section 5097.98 shall be followed. Work shall stop within 100 feet of the discovery and a qualified Cultural Resources Specialist must be contacted immediately, who shall consult with the County Coroner. In addition, California State Lands Commission staff shall be notified. If human remains are of Native American origin, the County Coroner shall notify the Native American Heritage Commission within 24 hours of this determination and a Most Likely Descendent shall be identified. No work is to proceed in the discovery area until consultation is complete and procedures to avoid and/or recover the remains have been implemented.	All Project areas	Reporting, notification and follow-up correspondence between agencies and PG&E if resources are encountered	Prior to and throughout any onshore work activities as necessary	PG&E and agencies as required	Reduce potential impacts to unanticipated human remains
<b>Greenhouse Gas</b>						
<b>Project GHG Emissions</b>	Implement <b>MM AQ-1: Air Pollutant Control Measures</b> (see above)					

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
<b>Hazards and Hazardous Materials</b>						
<b>Risk of Water or Soil Contamination</b>	<p><b>MM HAZ-1: Oil Spill Response Plan (OSRP).</b> Pacific Gas and Electric shall submit a Project-specific OSRP to California State Lands Commission staff 60 days prior to commencement of Project activities, for review and approval. At a minimum, the Project-specific OSRP shall:</p> <ul style="list-style-type: none"> <li>Clearly identify the responsibilities of onshore and offshore contractors prior to and during an unanticipated release of oil or other hydrocarbon;</li> <li>List and identify the location(s) of oil spill response equipment (including booms) onshore and offshore onboard Project vessels;</li> <li>List response times for deployment;</li> <li>Require that petroleum-fueled equipment on the main deck of all vessels have drip pans or other means of collecting dripped petroleum, which shall be collected and treated with onboard equipment;</li> <li>Require the primary work vessel to carry on board a minimum 400 feet of sorbent boom, 5 bales of sorbent pads at least 18-inch x18-inch square, and small powered boat for rapid deployment to contain and clean up any small spill or sheen on the water surface;</li> <li>Ensure that contracts with off-site spill response companies are in-place prior to commencement of Project activities; and</li> <li>Provide for additional containment and clean-up resources as needed.</li> </ul>	Onshore and offshore Project areas	Oil Spill Response Plan and daily compliance	At least 60 days prior to offshore project work activities and throughout and any in-water or onshore work activities	PG&E and CSLC	Reduce or eliminate potential impacts to water or soil



Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	<p><b>MM HAZ-2: Marine Safety and Anchoring Plan (MSAP).</b> Pacific Gas and Electric (PG&amp;E) shall submit a final MSAP to California State Lands Commission staff 60 days prior to commencement of offshore activities, and all pertinent regulatory agencies including National Marine Fisheries Service and the U.S. Coast Guard Vessel Transit Safety for review and approval that describes how PG&amp;E would avoid placing anchors on sensitive ocean floor habitats and pipelines. At a minimum, the MSAP shall include the following information:</p> <ul style="list-style-type: none"> <li>• A list of all vessels that would anchor during the Project and the number and size of anchors to be set;</li> <li>• Detailed maps showing proposed anchoring points with coordinates taking into account 1) adjacent utilities, 2) tidal water currents and 3) limiting impacts to local boaters and non-project vessels;</li> <li>• A description of the navigation equipment that would be used to ensure anchors are accurately set;</li> <li>• Anchor handling procedures that would be followed to prevent or minimize anchor dragging; and</li> <li>• Training for all applicable contractors and employees on operational protocols, procedures, and directives of the MSAP.</li> </ul>	Offshore Project areas	Marine Safety and Anchoring Plan and daily compliance	At least 60 days prior to offshore project work activities and throughout and any in-water work activities	PG&E and CSLC	Reduce or eliminate potential impacts to water or soil
	<p><b>MM HAZ-3: Pre- and Post-Decommissioning Surveys.</b> A baseline riverbed debris survey shall be performed prior to the start of offshore decommissioning activities at the Project site. The baseline debris survey shall consist of a side scan sonar with 400 percent coverage</p>	Offshore Project areas	Pre- and Post- Project Survey Reports	Prior to and following in-water work activities	PG&E	Reduce or eliminate potential impacts from contaminated materials

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	<p>and a bathymetric survey of the entire underwater work site.</p> <p>Following the completion of decommissioning activities, Pacific Gas and Electric shall repeat the survey of the same underwater work site again using side-scan sonar with 400 percent coverage and bathymetry. The survey map produced from this survey shall be compared with the baseline survey and used to identify any items of riverbed debris introduced into the underwater worksite by the decommissioning operations. The contractor shall be directed to remove debris related to the decommissioning operations.</p> <p>Both the pre-decommissioning survey map and the post-decommissioning survey maps shall be provided to California State Lands Commission staff for review and approval within 60 days of survey activities.</p>					
	<p><b>MM HAZ-4: Pig/Clean Pipeline Interiors.</b> The interiors of the terrestrial and submarine pipelines shall be pigged and flushed prior to start of decommissioning activities to ensure that all contaminants inside the pipelines have been eliminated or lowered to levels below acceptable regulatory limits so that the pipelines may be opened to the river during the submarine pipeline removal process. The cleaning shall consist of a chemical wash or sand wash of the pipeline interiors. The contaminate levels of the pipeline interiors shall be tested and certified prior to the start of decommissioning and the results submitted to California State Lands Commission staff prior to initiation of Project activities.</p>	Onshore and offshore Project areas	Daily compliance	Prior to and any Project work activities	PG&E	Reduce or eliminate potential impacts to water or soil

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	<b>MM HAZ-5: Phase I Environmental Site Assessment.</b> Prior to work at the Sherman Island valve pit, an extended Phase I Environmental Site Assessment review as well as the assessment of soils would be conducted to address potential soil contamination issues at this location. Assessment results shall be submitted to California State Lands Commission staff within 1 week of completion. Any contaminated soils found onsite shall be removed and properly disposed of at an approved offsite facility.	Onshore Project areas	Daily compliance and assessment result submittal	Prior to and throughout any onshore work activities as necessary	PG&E and CSLC	Reduce or eliminate potential impacts from contaminated materials
	<b>MM HAZ-6: Asbestos Testing.</b> Pipeline weight coatings shall be sampled and tested for the presence of asbestos prior to the submission of the Contractor Work Plan. Testing results shall be submitted to California State Lands Commission staff within 1 week of completion. If asbestos is found, an asbestos work plan shall be developed specifically for the Project and the plan shall be included in the Contractor Work Plan. The asbestos work plan shall provide specifications and procedures for proper protective clothing and personal safety equipment, emergency planning, site preparation for asbestos removal, removal of asbestos containing materials (pipe coating), disposal procedures, air monitoring, cleanup procedures, and submittals.	Onshore and offshore Project areas	Daily compliance and testing result submittal	Prior to and throughout any onshore work activities as necessary	PG&E and CSLC	Reduce or eliminate potential impacts from asbestos

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
<b>Hydrology and Water Quality</b>						
<b>Potential Impacts to Water Quality</b>	<b>MM WQ-1: Surface Water Protection.</b> Pacific Gas and Electric (PG&E) shall be required to implement Best Management Practices (BMPs) for reduction of surface water pollution. At a minimum, the BMPs shall include the following: <ul style="list-style-type: none"> <li>• Clearing of vegetation shall be confined to the minimal area needed for construction.</li> <li>• Erosion and sediment shall be controlled with the application of materials such as silt fences and straw wattles.</li> <li>• Onshore and offshore trash management and litter control procedures shall be specified, including responsible parties, and implemented to reduce potential pollution of surface waters.</li> <li>• Practical informational materials and/or training shall be provided to employees to increase their understanding of stormwater quality, sources of pollutants, and their responsibility for reducing pollutants in stormwater.</li> <li>• The contractor shall minimize the potential for spills of chemicals, hydraulic fluid, fuels, or other hazardous materials during construction and shall have onsite emergency spill containment kit to contain and remove any spilled fluids.</li> <li>• The potential for spills from Project equipment and machinery shall be minimized by using drip pans, visqueen, or other suitable secondary containment during overnight storage within equipment lay-down areas.</li> <li>• Vessel fueling shall be required at the</li> </ul>	All Project areas	Daily compliance	Prior to and throughout all Project work activities	PG&E and the approved biological consultant in accordance with agencies as necessary	Reduce potential impacts to wetlands or other waters of the U.S.

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
	<p>staging area or at an approved docking facility, and no cross-vessel fueling shall be allowed. In addition, all fuels and lubricants aboard the work vessel(s) shall have a double containment system. Chemicals used within the Project area and on work vessels shall be stored using secondary containment.</p> <ul style="list-style-type: none"><li>PG&amp;E shall not store fuel or oil at the proposed Project's parking and staging area upland of the work site. Fuel containment at the contractor's existing shore base may store quantities of oil and fuel.</li></ul>					
	Implement <b>MM HAZ-1: Oil Spill Response Plan</b> (see above) Implement <b>MM HAZ-2: Marine Safety and Anchoring Plan</b> (see above) Implement <b>MM HAZ-4: Pig/Clean Pipeline Interiors</b> (see above) Implement <b>MM BIO-2: Biological Compliance Monitoring Program</b> (see above) Implement <b>MM BIO-4: In-Water Work Windows and Protections</b> (see above)					
Noise						
Impacts Associated with Increased Noise Levels	<b>MM N-1: Construction Timing.</b> Onshore decommissioning work shall be conducted during daylight hours only. Monday through Friday: 7:30 a.m. to 7:00 p.m. and Saturday, Sunday, and holidays: 9:00 a.m. to 7:00 p.m.	Onshore Project area	Project scheduling and shifts	Throughout all onshore decommissioning activities	PG&E	Project schedule avoids weekends and 24 hour operations.
Recreation						
Impacts to Offshore Recreational	Implement <b>MM TRANS-1: Local Notice to Mariners</b> (see above) Implement <b>MM TRANS-2: Avoidance of Peak Hours</b> (see above) Implement <b>MM TRANS-3: Marine Safety Zones</b> (see above)					

Table 5-1. Mitigation Monitoring Program

Potential Impact	Mitigation Measure (MM)	Location	Monitoring / Reporting Action	Timing	Responsible Party	Effectiveness Criteria
<b>Transportation/Traffic</b>						
<b>Potential Conflicts with Existing Offshore Vessel Corridors</b>	<b>MM TRANS-1: Local Notice to Mariners.</b> A Local Notice to Mariners shall be submitted to the U.S. Coast Guard (USCG) at least 15 days prior to offshore decommissioning activities. All marine operations at the Project site shall operate in compliance with a USCG Anchor Waiver obtained specifically for the Project and shall comply with the USCG Vessel Traffic Service.	Offshore Project areas	Project scheduling and daily compliance	At least 15 days prior to construction and as necessary	PG&E in accordance with USCG protocols	Minimize potential impacts to offshore transportation areas
	<b>MM TRANS-2: Avoidance of Peak Hours.</b> Construction traffic affecting State highways shall be required to avoid a.m. and p.m. peak hours between 7:00 a.m. to 9:00 a.m. and 5:00 p.m. to 7:00 p.m.	Onshore Project areas	Project scheduling and daily compliance	Daily throughout Project activities	PG&E	Minimize potential impacts to onshore transportation areas
	<b>MM TRANS-3: Marine Safety Zones.</b> Marine safety zones shall be minimized to the extent practicable to preclude vessel traffic impacts. All vessels would be requested to maintain a 500-foot safety zone around Project buoys, or if no buoys are present, a minimum offset of 500 feet from the derrick barge.	Offshore Project areas	Project design and daily compliance	Daily throughout all offshore Project activities	PG&E in accordance with USCG protocols	Minimize potential impacts to offshore transportation areas
<b>CSLC Environmental Justice Policy</b>						
<b>Impacts to Environmental Justice Populations</b>	Implement <b>MM TRANS-1: Local Notice to Mariners</b> (see above) Implement <b>MM HAZ-2: Marine Safety and Anchoring Plan</b> (see above)					

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## 6.0 MND PREPARATION SOURCES AND REFERENCES

This Mitigated Negative Declaration (MND) was prepared by the staff of the California State Lands Commission's Division of Environmental Planning and Management (DEPM), with the assistance of Padre Associates, Inc. The analysis in the MND is based on information identified, acquired, reviewed, and synthesized based on DEPM guidance and recommendations.

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### 6.3 REFERENCES CITED

- Bay Area Air Quality Management District (BAAQMD), 2012.  
[www.baaqmd.gov/~media/files/planning-and-research/ceqa/baaqmd-ceqa-guidelines\\_final\\_may-2012.pdf?la=en](http://www.baaqmd.gov/~media/files/planning-and-research/ceqa/baaqmd-ceqa-guidelines_final_may-2012.pdf?la=en). Website accessed on January 2015 and July 2015.
- California Air Pollution Control Officers Association (CAPCOA). 2008. "Report on Climate Change: Evaluating and Addressing Greenhouse Gas Emissions from Projects Subject to the California Environmental Quality Act," accessed February 2015 at: [www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf](http://www.capcoa.org/wp-content/uploads/downloads/2010/05/CAPCOA-White-Paper.pdf). 155 pp.
- California Air Resources Board. 2000. Risk Reduction Plan to Reduce Particulate Matter Emissions from Diesel-Fueled Engines and Vehicles, accessed February 2015 at [www.arb.ca.gov/diesel/documents/rrpfinal.pdf](http://www.arb.ca.gov/diesel/documents/rrpfinal.pdf). 38 pp.



- 1 \_\_\_\_\_.2004. Staff Report: Proposed Regulatory Amendments Extending the California  
2 Standards for Motor Vehicle Diesel Fuel to Diesel Fuel Used in Harbor Craft and  
3 Interstate Locomotives, accessed February 2015 at:  
4 [www.arb.ca.gov/regact/carblohc/isor.pdf](http://www.arb.ca.gov/regact/carblohc/isor.pdf). 120 pp.
- 5 \_\_\_\_\_.2006. California Global Warming Solutions Act Assembly Bill 32 Website, accessed  
6 February 2015 at: [www.arb.ca.gov/cc/ab32/ab32.htm](http://www.arb.ca.gov/cc/ab32/ab32.htm). 5 pp.
- 7 \_\_\_\_\_.2007. Expanded List of Early Action Measures to Reduce GHG Emissions in  
8 California. 205 pp.
- 9 \_\_\_\_\_. 2008. Climate Change Proposed Scoping Plan – A Framework for Change. 205  
10 pp.
- 11 \_\_\_\_\_.2013. State and National Ambient Air Quality Standards, accessed February 2015  
12 at: [www.arb.ca.gov/research/aaqs/aaqs2.pdf](http://www.arb.ca.gov/research/aaqs/aaqs2.pdf). 2 pp
- 13 \_\_\_\_\_.2015. California Air Basins - San Francisco Bay, accessed online January 2015 at:  
14 <http://www.arb.ca.gov/knowzone/basin/basin.swf>. 1 pp.
- 15 California Action Team. 2006. Climate Action Team Report to Governor  
16 Schwarzenegger and the Legislature, accessed May 2015 at:  
17 [http://www.climatechange.ca.gov/climate\\_action\\_team/reports/#2006](http://www.climatechange.ca.gov/climate_action_team/reports/#2006). 110 pp
- 18 California Climate Change Portal. 2015. Website, accessed February 2015 at:  
19 [www.climatechange.ca.gov](http://www.climatechange.ca.gov). 1 pp.
- 20 California Department of Transportation (Caltrans). 2013. Officially Designated State  
21 Scenic Highways website, accessed December 2014 at:  
22 [www.dot.ca.gov/hq/LandArch/scenic/schwy.htm](http://www.dot.ca.gov/hq/LandArch/scenic/schwy.htm). 2 pp.
- 23 \_\_\_\_\_.2014. Transportation Concept Report State Route 160 District 3, August 2014. 33  
24 pp.
- 25 California Regional Assessment Group. 2002. Preparing for a Changing Climate - The  
26 Potential Consequences of Climate Variability and Change for California.  
27 September. 435 pp.
- 28 California State Lands Commission (CSLC). 2013. DuPont Oakley Outfall Removal and  
29 Final Closure Project Initial Study/Final Mitigated Negative Declaration.
- 30 City of Oakley. 2007. Parks, Trails and Recreation Master Plan – 2020. pp 4-2
- 31 \_\_\_\_\_.2010. City of Oakley 2020 General Plan. Adopted December 16, 2002, Amended  
32 January 26, 2010. 311 pp.
- 33 County of Contra Costa. 2010. Contra Costa County General Plan 2005-2020. (Original  
34 work published 2005).

- 1 \_\_\_\_\_.2012. Climate Action Plan Draft. pp 7-18.
- 2 \_\_\_\_\_.2014. Noise Element. Contra Costa County General Plan 2005-2020. (Original  
3 work published 2005).
- 4 County of Sacramento. 1983. Delta Community Area Plan. Planning and Development  
5 Department. 236 pp.
- 6 \_\_\_\_\_.2011. General Plan of 2005-2030. Air Quality Element, plan adopted November 9,  
7 2011, accessed February 2015 at: [www.per.saccounty.net/PlansandProjectsIn-](http://www.per.saccounty.net/PlansandProjectsIn-Progress/Pages/GeneralPlan.aspx)  
8 [Progress/Pages/GeneralPlan.aspx](http://www.per.saccounty.net/PlansandProjectsIn-Progress/Pages/GeneralPlan.aspx). 13 pp. .2011.
- 9 \_\_\_\_\_.2011. General Plan of 2005-2030. Agricultural Element, Section II - Farmland and  
10 Agricultural Resource Protection. pp 5-7.
- 11 \_\_\_\_\_.2011. General Plan of 2005-2030. Existing Scenic Highways and Scenic Corridors  
12 Map. 1 pp.
- 13 \_\_\_\_\_.2011. General Plan of 2005-2030. Hazardous Materials Element. pp 1-12.
- 14 \_\_\_\_\_.2011. General Plan of 2005-2030. Land Use Map. 1 pp.
- 15 \_\_\_\_\_.2011. General Plan of 2005-2030. Safety Element. pp 1-2.
- 16 \_\_\_\_\_.2014. General Plan Circulation Element. 53 pp.
- 17 \_\_\_\_\_.2014. General Plan, Conservation Element Amended November 9, 2011.  
18 [http://www.per.saccounty.net/PlansandProjectsIn-](http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/General%20Plan%202030/GP%20Elements/Conservation%20Element.pdf)  
19 [Progress/Documents/General%20Plan%202030/GP%20Elements/](http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/General%20Plan%202030/GP%20Elements/Conservation%20Element.pdf)  
20 [Conservation%20Element.pdf](http://www.per.saccounty.net/PlansandProjectsIn-Progress/Documents/General%20Plan%202030/GP%20Elements/Conservation%20Element.pdf)
- 21 \_\_\_\_\_.2014. General Plan, Delta Protection Element - Natural Resources. Adopted May  
22 28, 2014. [http://www.per.saccounty.net/](http://www.per.saccounty.net/LandUseRegulationDocuments/Documents/General-Plan/Delta%20Protection%20Element%20FINAL%20ADOPTED%205-28-14.pdf)  
23 [LandUseRegulationDocuments/Documents/General-](http://www.per.saccounty.net/LandUseRegulationDocuments/Documents/General-Plan/Delta%20Protection%20Element%20FINAL%20ADOPTED%205-28-14.pdf)  
24 [Plan/Delta%20Protection%20Element%20FINAL%20ADOPTED%205-28-14.pdf](http://www.per.saccounty.net/LandUseRegulationDocuments/Documents/General-Plan/Delta%20Protection%20Element%20FINAL%20ADOPTED%205-28-14.pdf)
- 25 Department of Toxic Substances Control (DTSC). 2015. Envirostor Hazardous Waste  
26 and Substances Site List, accessed January 2015 at:  
27 <http://www.calepa.ca.gov/SiteCleanup/CorteseList/SectionA.htm>.
- 28 Diablo Water District, 2007. Diablo Water District Groundwater Management Plan for  
29 AB3030. pp 11-19.
- 30 Division of Oil, Gas, and Geothermal Resources (DOGGR). 2015. Well Finder,  
31 accessed February 2015 at: <http://maps.conservation.ca.gov/doggr/#close>. 1 pp.
- 32 Far Western Anthropological Research Group, Inc. (Far Western). 2014. Archaeological  
33 Survey Report for the PG&E Line 114-1(7.31-8.18) Line 114 (7.32-8.18), and SP4Z

- 1 (MP 7.31-8.18) Retirement Project, Sacramento and Contra Costa Counties,  
2 California. Written by Sharon A. Waechter and Kim Carpenter for Leslie Smirnoff  
3 Sakowicz, Cultural Resources Specialist Gas Transmission Pacific Gas & Electric  
4 Company. 189 pp.
- 5 Fehr and Peers Transportation Consultants. 2007. Transportation Impact Analysis Cline  
6 Specific Plan. pp 12-13.
- 7 Fugro West, Inc. (Fugro). 2006. Desktop Study San Joaquin River Pipeline Crossing  
8 Remediation Project, Sacramento - San Joaquin Delta, California. 23 pp.
- 9 \_\_\_\_\_.2014. Bathymetry and Surficial Features San Joaquin River Pipeline Crossings  
10 Remediation Project, Antioch, California. 1 pp.
- 11 Intergovernmental Panel on Climate Change (IPCC). 2014. Fifth Assessment Report by  
12 Working Group II, "Climate Change 2014: Impacts, Adaptation, and Vulnerability,"  
13 accessed February 2015 at: [http://www.ipcc.ch/pdf/assessment-](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap26_FINAL.pdf)  
14 [report/ar5/wg2/WGIIAR5-Chap26\\_FINAL.pdf](http://www.ipcc.ch/pdf/assessment-report/ar5/wg2/WGIIAR5-Chap26_FINAL.pdf)
- 15 State Water Resources Control Board (SWRCB). 2010. Central Valley Regional Water  
16 Quality Control Board Amendments to the Water Quality Control Plan for the  
17 Sacramento River and San Joaquin River Basins for the Control of Methylmercury  
18 and Total Mercury in the Sacramento-San Joaquin Delta Estuary, Staff Report.
- 19 \_\_\_\_\_.2015. Geotracker Website, accessed January 2015 at:  
20 <http://geotracker.waterboards.ca.gov/map>.
- 21 \_\_\_\_\_.2015. Construction Stormwater Program Website, accessed May 2015 at  
22 [http://www.swrcb.ca.gov/water\\_issues/programs/stormwater/construction.shtml](http://www.swrcb.ca.gov/water_issues/programs/stormwater/construction.shtml).
- 23 U.S. Census Bureau. 2014. American Fact Finder, DP04 - Selected Housing  
24 Characteristics, 2007-2009 American Community Survey 3-Year Estimates (Contra  
25 Costa County, Sacramento County, City of Antioch, City of Oakley geographic  
26 areas), accessed December 2014 at <http://factfinder2.census.gov/>.
- 27 U.S. Department of Transportation (USDOT) Federal Highway Administration (FHWA).  
28 2006. Roadway Construction Noise Model User's Guide Final Report (FHWA-HEP-  
29 05-054 DOT-VNTSC-FHWA-05-01). pp 3.
- 30 U.S. Environmental Protection Agency (USEPA). 1971. Noise from Construction  
31 Equipment and Operations, Building Equipment, and Home Appliances. pp 11-13.
- 32 \_\_\_\_\_.2011. Waterbody Quality Assessment Report Website, accessed January 2015 at  
33 [http://ofmpub.epa.gov/waters10/attains\\_waterbody.control?p\\_au\\_id=CAE51000000](http://ofmpub.epa.gov/waters10/attains_waterbody.control?p_au_id=CAE51000000)  
34 [20021115122549&p\\_cycle=2010](http://ofmpub.epa.gov/waters10/attains_waterbody.control?p_au_id=CAE51000000). 3 pp.